ABSTRACT ISSUE (Vol. 1 -- 11)

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(1)..... Volume No.: Page, Year of Publication
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001
(1)1:1-53, 1981
(2)Plant Utilization of the Mbuti Pygmies: With Special Reference to Their Material Culture and Use of Wild Vegetable Foods.
(4)Tanno, Tadashi
(5)Department of Cultural Anthropology, Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.

002
(1)1:55-68, 1981
(2)Ecological and Sociological Importance of Honey to the Mbuti Net Hunters, Eastern Zaire.
(4)Ichikawa, Mitsuo
(5)Laboratory of Physical Anthropology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

003
(1)1:69-99, 1981
(2)Infanticide and Cannibalism in Chimpanzees: With Special Reference to the Newly Observed Case in the Mahale Mountains.
(4)Kawanaka, Kenji
(5)Laboratory of Anthropology, Okayama University of Science, 1-1 Ridai-cho, Okayama 700, Japan.

004
(1)1:101-108, 1981
(2)Territorial Behaviour of *Tropheus moorei* (Osteichthyes: Cichlidae): With a Preliminary Consideration on the Territorial Forms in Animals.
(4)Kawanabe, Hiroya
(5)Department of Zoology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

005
(1)1:109-131, 1981
(2)Kitongwe Name of Plants: A Preliminary Listing.
(4)Nishida, Toshisada; Uehara, Shigeo
(5)Department of Anthropology, Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.
(6)Department of Anthropology, Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.

006
(1)1:133-136, 1981
(2)Book Review: Institute for the Study of Languages and Cultures of Asia and Africa, Tokyo University for Foreign Studies (ed.), 1980, "*Ahurika Shakai no Keisei to Tenkai (Urbans-Rural Relations in Africa)*." 456pp. Dohosha, Kyoto.
(4)Yoneyama, Toshinao
(5)College of Liberal Arts and Sciences, Kyoto University, Nihonmatsu-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.

007
(1)2:1-26, 1982
(2)The Hadza and the Iraqw in Northern Tanzania: Dermatographical, Anthropometrical, Odontometrical and Osteological Approaches.
(4)Ikeda, Jiro; Hayama, Sugio
(5)Department of Physical Anthropology, Faculty of Science, Kyoto University, Oiwake-cho, Kiatashirakawa, Sakyo-ku, Kyoto 606, Japan.
(6)Department of Anatomy, Kansai Medical University, 1 Fumizono-cho, Moriguchi, Osaka 570, Japan.
(11)The dermatoglyphics, physical measurements, tooth size and dental arch measurements of 4 populations of Mangola are analyzed and the racial affinities of earlier inhabitants are discussed based on the human remains excavated from Gishimangeda cave and Sechikuencho cairns. The Iraqw, Datoga and the Hadza were investigated as representing the Hamitic, Nilotic and the Khoisan speaking people. The Iraqw and Datoga bear a close resemblance in physical features to the other members of the Hamitic or Caucasians as well as the Bantu speakers, while the Datoga are closer to the Bantu than the Iraqw do. On the other hand, the Hadza are quite different from the Iraqw and Datoga, and approach mostly to the North Bushmen and fairly resemble the neighboring Bantu tribes. The Gishimangeda and Sechikuencho skeletal series can be dated to probably the 13th or 14th century and 18th or 19th century respectively. They are in most essentials hybrid population between the Mediterraneans and the Negroes, but are closer to the latter. The living Mangola peoples with such mixed physical traits are the Iraqw or Datoga among 4 populations examined by us. The occupant of Mangola during several centuries ago, therefore, can be suggested as the Nilotic or the Hamitic peoples, probably the former. The Hadza has not been attached linguistically and physically to any definite people. There are no trace of early Khoisanoid in this regions.

008
(1)2:27-52, 1982
(2)Subsistence Ecology of the Pastoral Gabra: A Preliminary Report.
(4)Imai, Ichiro
(5)Primate Research Institute, Kyoto University, Kanrin, Inuyama, Aichi 484, Japan.
(11)This paper deals with the subsistence pattern of the pastoral Gabra in northern Kenya. The author describes it in relation to the natural environment and several neighboring pastoralists. Although the Gabra originated from several neighboring pastoralists, they do not have friendly relationship with them except the Boran. The natural environment of the Gabra territory is extremely dry, with low annual rainfall, and the surface water is distributed unevenly. Cultivation is impossible in such an arid area, so that the Gabra keep livestock and depend their subsistence almost entirely on the product of their livestock such as milk, meat and blood. The Gabra seldom hunt wild animals. In the

following the author describes aspects of frequent nomadic movement of their residential and herding area for effective livestock management. He also describes the diet taken by the Gabra in a main camp. Based on this, it is pointed out that the subsistence basis of the Gabra is the products of livestock, and that the most important livestock for the Gabra diet is not a large one, like cattle or camels, but goats.

009

(1)2:53-71, 1982

(2)Transfer of Group Members in Plain Zebras (*Equus burchelli*) in Relation to Social Organization.

(4)Ohsawa, Hideyuki

(5)Primate Research Institute, Kyoto University, Kanrin, Inuyama, Aichi 484, Japan.

(11)Social organization of plain zebras (*Equus burchelli* Gray, 1824) was studied in the Isiolo National Park in Kenya from June 1978 to June 1980. Their society is composed of one-male groups (consisting of one adult male, several adult females and their offspring) and all-male groups (consisting of full adult and young adult males). All the individuals which appeared in the study area were thoroughly identified throughout the study period, and the membership of each group was confirmed. The main data analyzed in the present paper are (a) moving range of the study groups and movements of nonresident groups, (b) group transfer of individuals during the two years, and (c) observation of behaviors in relations to the group transfer. Based on these analyses the cluster of several one-male groups and an all-male group living in the study area was concluded to be a social entity which is one level higher than a one-male grup or an all-male group. Such social organization was compared with social organization of other species, especially with that of baboon species. Finally, it was noted that "neighborhood relationship" plays an important role for the formation of a two-layered social group such as the band in gelada baboons and the cluster in plain zebras.

010

(1)2:73-131, 1982

(2)Sociological Comparison between Two Wild Groups of Anubis-Hamadryas Hybrid Baboons.

(4)Sugawara, Kazuyoshi

(5)Section of Social Ecology, Department of Behavioral Science, Faculty of Letters, Hokkaido University, N.10 W.7 Kita-ku, Sapporo, Hokkaido 060, Japan.

(11)In the Awash Valley, Ethiopia, observed were 2 groups of anubis-hamadryas hybrid baboons to make a comparative study of their social organizations. Morphologically and genetically, one group (the Gorge group) was closer to anubis, while the other (the Kerrayu group) was closer to hamadryas. The entire Kerrayu group was very cohesive, whereas the Gorge group often splitted into several parties without stable membership. In the Gorge group, 8 subgroups were distinguished: 3 multi-male groups and 5 one-male groups. The Kerrayu group had 2 large one-male units, several small one-male units, and 8-9 pair units. The infra-units within the Kerrayu group were spatially more cohesive than the Gorge subgroups. In both Kerrayu and Gorge groups, the distinctive affinitive bonds, which seemed to be based on kinship, existed among females. The males of the Kerrayu group had a stronger social disposition towards each other's proximity than those of the Gorge group. The linearity of dominance order among males in the Gorge group was more distinctly established than in the Kerrayu group. In the Awash Valley anubis and hamadryas populations have had mutual gene flow. The inflow

of anubis genes into the hamadryas band has strongly affected the possessive behavior of hamadryas males towards females, but has exerted little effect on the mutual bonds among the males. The inflow of hamadryas genes into the anubis troop has severely affected its integration. It was concluded that the band to be the basic social unit of hamadryas baboons, and it was speculated that some sociological and ecological factors promoted the formation of multi-level system of hamadryas baboons.

011
(1)2:133-143, 1982
(2)Littoral Fish Fauna near Uvira, Northwestern End of Lake Tanganyika.
(4)Kawabata, Masakazu; Mihigo, Ngabo Ya Kahayira
(5)Biological Laboratory, Shizuoka Women's University, Shizuoka, Japan.
(6)Institut de Recherche Scientifique (I.R.S.)/Uvira, Uvira, Zaïre.
(11)The fish fauna near Uvira is composed of 13 families and more than 110 species—38 of non-cichlids and 72 of cichlids. It is considerably different from that in the Ruzizi estuaries and on the Luhanga rocky shores. Stream or estuary species such as *Protopterus, Sarogherodon niloticus* and cyprinids are abundant in the former, while *Synodontis, Mastacembelus* and cichlid fishes are in the latter. Some stream or estuary fishes such as *Citharinus, Hydrocynus* and *Tetraodon*, which are common in the Maragarasi estuaries, do not seem to inhabit near the Ruzizis. The proportion of endemic species is much higher on the rocky shores than at the muddy area and especially that of cichlids reaches 100%. Sixty-one species of cichlids inhabit the rocky shore of Luhanga in high density and most of them are rock dwellers except *Boulengerochromis* and *Hemibates* etc. The proportion of the rock dwellers at Luhanga to the whole rock dwellers of the lake is also high, reaching 70% in cichlids.

012
(1)3:1-23, 1983
(2)Comparative Morphology of the Feeding Apparatus in Cichlidian Algal Feeders of Lake Tanganyika.
(4)Mbomba, Nseu Bekeli
(5)Department of Zoology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Feeding apparatus of 11 species of algal feeding cichlid fishes were examined. A set of 14 characters was taken and treated on their state distance for clustering. *Asprotilapia* type, *Petrochromis* type, and *Simochromis* type with three subtypes are recognized. These feeding apparatuses are related to the feeding methods of fishes when they graze on algae from rocks. This grouping is different from Greenwood's (1978) systematic classification based on pharyngeal apophysis of African cichlids.

013
(1)3:25-38, 1983
(2)Abundance and Micro-Distribution of Cichlid Fishes on a Rocky Shore of Lake Tanganyika.
(4)Hori, Michio; Yamaoka, Kosaku; Takamura, Kenji
(5)Department of Biology, Wakayama Medical College, 651 Hironishi, Wakayama 649-63, Japan.
(6)Department of Fisheries, Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(7)Department of Zoology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)Every species of rock dwelling cichlid fishes were counted with help of SCUBA at Luhanga in the northwestern part of Lake Tanganyika in 1980. In this area rocky substrate was prominent especially in shallow bottom, while stone, rubble, gravel or sandy substrates were patchily scattered among rocks. About 7,000 fishes of 38 species were counted in a quadrat (20×20 m^2). Plankton feeders (2 species) were most abundant (56%), omnivores (7 species) and Aufwuchs eater (15 species) composed of 21 and 18%, respectively. Numbers of zoobenthos feeders (8 species) and piscivores including scale eaters (6 species) were about 4%. Plankton feeders were gregarious, while species of the other feeding habits were exclusively distributed to other conspecific individuals. About a half number of species frequented on a specific substrate type as follows: Almost all Aufwuchs eaters preferred strongly on rocks especially in shallow water layer and zoobenthos feeders had different preferences to substrate each other, showing repulsive distribution. Among another half number of species, 3 species adhered to shallow region and the rest species showed ubiquitous distribution without any substrate preference, and their number of individuals was small. It is characteristic that most piscivores (4 species), most omnivores (4 species) and a few zoobenthos feeders (2 species) were ubiquitous. Most species kept a distance from piscivores. Each set of two species of Aufwuchs eater and two species of omnivore often frequented together suggesting a cooperative feeding.

014

(1)3:39-47, 1983

(2)Distribution, Abundance and Parental Care of the Genus *Lamprologus* (Cichlidae) in Lake Tanganyika.

(4)Nagoshi, Makoto

(5)Faculty of Fisheries, Mie University, 2-80 Edobashi, Tsu, Mie 514, Japan.

(11)Distribution, abundance and parental care of the genus *Lamprologus—L. brichardi, L. compressiceps, L. elongatus, L. furcifer, L. leleupi, L. lemairei, L. modestus, L. savoryi, L. toae* and *L. tretocephalus*—inhabiting the rocky shore in Lake Tanganyika, were observed underwater by SCUBA diving from July to November 1981. Each species shows a substratum preference as for feeding, spawning and parental care. They have breeding territory on a small limited area, and the distributions never overlap. The parental care is divided into three types in relation to their mating types: monogamy, polygyny and colonial breeding. The fry distribution according to their development under parental care is divided into two patterns of expansion: the horizontal and the vertical.

015

(1)3:49-58, 1983

(2)Cultural and Political Change in Northern Malawi c.1350-1800.

(4)Kalinga, Owen J.M.

(5)Department of History, University of Malawi, Malawi.

(11)This article attempts to portray the political and religious culture of the peoples who inhabited northern Malawi in the pre-1800 period. It demonstrates how the Ngulube groups established polities in the area and how they came to dominate the indigenous peoples. It also shows how different circumstances in individual localities influenced the mode of dominance by the Ngulube groups over the various autochthones. The article

further shows how the prosperity of the Tumbuka country under the Mkandawire was destroyed by the droughts of the late sixteenth and early seventeenth centuries, and how this left a vacuum which was filled in the eighteenth century by the *lowoka* traders.

016
(1)3:59-69, 1983
(2)The Labor Exchange System in the Tembo.
(4)Suehara, Tatsuro
(5)Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The author describes and analyzes the labor exchange system of the Tembo, an agricultural people in eastern Zaire. The system consists of three basic rules: (a) one-day work should be exchanged with one-day work, and a monetary system is of no effect in the labor exchange system, (b) labor is exchanged between the same sex, and (c) labor is exchanged by a dyadic contract between two individuals.

But these three rules alone are practically impossible, unless every member in the society has equal capacity of labor. The Tembo, therefore, have three modified systems of labor exchange to resolve some incongruity between the principles of labor exchange and inequality existing in the society: (a) "*lukoo*" system of offering labor as a gift, (b) "*kwanza*" system of paying back a feast instead of labor, and (c) a system which works beyond the limitation of sex enabling deficient families to participate the labor exchange group. These three subsystems make the labor exchange system prevalent in the Tembo society.

017
(1)3:71-85, 1983
(2)*Mota* and Other Hunting Activities of the Mbuti Archers: A Socio-Ecological Study of Subsistence Technology.
(4)Terashima, Hideaki
(5)Department of Social Science, Faculty of Education, Fukui University, 3-9-1, Bunkyo, Fukui 910, Japan.
(11)Several methods of bow-and-arrow hunting of the Mbuti archers in the Ituri Forest are described and analyzed in this paper. My observation and the literature indicate that one type of collective bow-and-arrow hunting, *mota*, which uses a beat-technique and aims for duikers or a chevrotain occupies the principal position among the various hunting activities of archers. Bow-and-arrow hunting has been so far considered far less effective than net hunting, but a comparison revealed that the *mota* hunting or *mota*-like bow-and-arrow hunting is not always inferior to net hunting in efficiency. We should keep this point in mind when we compare the subsistence ecology of archers and that of net-hunters.

018
(1)3:87-104, 1983
(2)Material Culture of the Pokot in Kenya: With Special Reference to Circulation of Articles.
(4)Kurita, Kazuaki
(5)Little World Foundation, 90-48 Narusawa, Imai, Inuyama, Aichi 484, Japan.
(11)This paper presents the report on the circulation of material culture and foodstuff among the Pokot people in western Kenya. More than half the articles of the families studied

are made by the family members, while about 40 % are produced outside Chesegon, the study area. Metal and cloth made articles make up most of what are obtained at market, shops or outside Chesegon. More than 70% of all kinds of material culture can remain in good condition for more than ten years, though more than 80% of all articles are actually renewed within ten years. Material culture of the Pokot is composed of many quickly rotating articles and a few durable articles.

019
(1)3:105-108, 1983
(2)Seed Dispersal by Chimpanzees: A Preliminary Note.
(4)Takasaki, Hiroyuki
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Seeds out of feces of chimpanzees (*Pan troglodytes schweinfurthii*) inhabiting the Mahale Mts., western Tanzania, were tested for viability. Seeds of *Myrianthus holstii* (Moraceae), *Pycnanthus angolensis* (Myristicaceae), and *Pseudospondias microcarpa* (Anacardiaceae) from chimpanzee feces showed marked germinability in comparison with seeds collected from fallen fruits. With field observations, this result was discussed in relation to the vegetation of the area by focusing on the chimpanzee's role in seed dispersal.

020
(1)3:109-130, 1983
(2)Natural Diet of Chimpanzees (*Pan troglodytes schweinfurthii*): Long-Term Record from the Mahale Mountains, Tanzania.
(4)Nishida, Toshisada; Uehara, Shigeo
(5)Department of Anthropology, Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan
(6)Faculty of General Education, Sapporo University, 3-1, 3-7, Nishioka, Toyohira-ku, Sapporo, Hokkaido 062, Japan.
(11)All the plant and animal foods recorded to be eaten by wild chimpanzees of Kasoje in the Mahale Mountains, Tanzania between 1965 and 1981 are listed up together with some additional miscellaneous foods. As for the plant foods, the chimpanzees have been confirmed to utilize 328 food items from 198 species (including 8 food items from 6 cultigen species). They also consume 12 species of mammals, 5 species of birds or their eggs (including one domestic species), and more than 15 genera of insects (including at least 25 species). Since drastic inter-annual changes in food composition in the diet of wild chimpanzees exist, only such data collected on the basis of a long-term perspective can reveal their diversified food repertoire.

021
(1)4:1-54, 1983
(2)Hunting of the Boyela, Slash-and-Burn Agriculturalists, in the Central Zaire Forest.
(4)Sato, Hiroaki
(5)Faculty of Medicine, University of the Ryukyus, Uehara, Nishihara, Okinawa 903-01, Japan.
(11)The hunting techniques and activities of the Boyela, slash-and-burn agriculturalists in the central Zaire Forest, are described and analyzed in this paper. The meat which the hunting provides is the primary protein source for the Boyela who depend on cassava

tubers with a very low protein content for the bulk of their diet. Hunting, besides agriculture, is one of their major substance activities.

The Boyela hunters mainly hunt by drive and ambush methods, using bows and arrows, nets, and traps which are well adapted to the forest environment. However, they are characterized as trappers, having developed an elaborate trapping technology.

As the Boyela hunters are engaged in agricultural activities, they are restricted to part-time hunting within a small area around their settlements and fields; however, the people's demand for meat is not small. It is inferred that in order to resolve this problem, they have adopted trapping, which is the most efficient in terms of labor-input, as the principal hunting activity, have made many technological innovations, and have occasionally conducted hunting trips deep into the usual hunting range, leaving their home base.

022
(1)4:55-76, 1983
(2)An Examination of the Hunting-Dependent Life of the Mbuti Pygmies, Eastern Zaire.
(4)Ichikawa, Mitsuo
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The possibility of a hunting-dependent life by the Mbuti Pygmies in the Ituri Forest is examined, and ecological and sociological conditions of such a life are discussed. It is concluded that, without the symbiotic partners providing the Mbuti with farm foods, a hunting-dependent life in the Ituri Forest would be quite hard and require much more effort in the subsistence activities than that made by the present-day Mbuti, although it would not be impossible from calorific viewpoint. Stable meat supply, which is pointed out here to be indispensable to a hunting-dependent life, is facilitated by such ecological and sociological conditions as abundant small to medium-sized game animals, their random distribution in the forest, strong correlation between effort and return in hunting, and frequent meat sharing among the band members based on the principle of generalized reciprocity.

023
(1)4:77-89, 1983
(2)Feeding Behaviour and Dental Morphology of Algae Scraping Cichlids (Pisces: Teleostei) in Lake Tanganyika.
(4)Yamaoka, Kosaku
(5)Department of Fisheries, Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Feeding behavior in the natural situation and dental morphology of 13 Tanganyika species belonging to 6 genera of algae scraping cichlids were studied to understand the degree of specialization for algae feeding in relation to size. Three parameters, speed of grazing (SG), successive repeated times (SRT) and time interval of browsing (TIB), were measured to analyze the behavior. The first two parameters were applied to 6 species of *Petrochromis* grazers and the third one to 7 other browsing species. Among grazers, *Petrochromis polyodon* is regarded as the most adapted and *P. fasciolatus* as the least adapted to grazing diatoms off the filamentous algae. Among browsers, *Telmatochromis temporalis* has distinctive behavioral and morphological features, showing the lowest degree of adaptation. The other 6 browsing species share similar features. *Limnotilapia dardennei* and *Simochromis diagramma* show a lower degree of

adaptation. *Tropheus moorei* can be regarded as the best adapted to browsing filamentous algae by shearing. *S. babaulti* and *S. marginatus* are situated between each of them. *Pseudosimochromis curvifrons* seems to diverge into browsing by cutting, not shearing. TIB can be regarded as a handling time. The validity of the "jacks-of-all-trades" hypothesis is discussed.

024
(1)4:91-106, 1983
(2)Avifauna of the Omo National Park, Ethiopia, in the Dry Season.
(4)Takeishi, Masayoshi
(5)Department of Biology, Faculty of Science, Kyushu University, Hakosaki, Higashi-ku, Fukuoka 812, Japan.
(11)The avifauna of lowland Ethiopia consisting of grassland and bushland was investigated during the dry season from November 1981 to February 1982 in Omo National Pork. One hundred and thirty-eight species of 48 families were observed in the whole area of the Park. One hundred and seven of these species were observed in the bushland around a small river and 45 species in the grassland and a small swamp. In the bushland area, dominant species were *Turtur chalcospilos, Lamprotornis purpuropterus, Pycnonotus barbatus, Streptoperia decipiens, S. capicola, Tockus jacksoni, Corythaixoides leucogaster, Dicrurus adsimilis* and *Francolinus sephaena*. In the vicinity of the river, *Burhinus senegalensis, Butorides striatus, Megaceryle maxima* and *Ceryle rudis* were commonly found. In the grassland area, *Struthio camelus, Ardeotis kori*, some species of Bustards, *Oenanthe* sp. and *Cisticola* sp. were commonly found. At the swamp in the grassland, *Hoplopterus spinosus* and *Himantopus himantopus* dominated. Comparing the savanna bushland with the grassland, the number of species and the density of birds in the former were three to five times and about thirty times respectively as many as those in the latter. In the savanna bushland, frugivores (19.5% of total number of species) accounted for 43.4% of total observed individuals and graminivores were next. In the grassland, number and density of species of insectivores were considerably higher than 2species with other food habits.

025
(1)4:107-118, 1983
(2)*Marmo* and *Haragasi*: Iraqw Folk Theatricals.
(4)Kamera, W.D.
(5)Department of Literature, University of Dar es Salaam, P.O.Box 35041, Dar es Salaam, Tanzania.
(11)This paper is an attempt to expose and thus vindicate the theatrical potentialities that abound in folk rituals and ceremonies. It describes and presents the details of the obvservances and ritual procedures connected with the ceremonies of *Marmo* and *Haragasi* which usher youths into adulthood and the matrimonial estate among the Iraqw of Northern Tanzania.

Marmo is the girls' ceremony of coming of age and as such it is not only a critical stage of life but also a dramatic one. *Haragasi* is the dialogue that sanctions matrimony by discounting impediments, such as consanguinity, that might bar a marriage.

The slant of this paper is towards the theatrical appeal and symbolic significance with which the ceremonies are loaded. Such theatrical features and symbolism suggestively illuminate a hitherto unexplored field in functional aesthetics, for the two ceremonies discussed, show how theatrical techniques can be exploited for effective communal

education.

026
(1)4:119-128, 1983
(2)Social Behavior and Spatial Context.
(4)Agorsah, E.K.
(5)University of California, Los Angeles, CA 90024, USA.
(11)This is a study of the Nchumuru, a Guang-speaking people who in prehistoric times came to inhabit large parts of Ghana and still maintain their traditional social system and subsistence practices. This paper examines how ethnographic data from the modern settlement of Wiae in the northern Volta Region of Ghana in West Africa, have been used to predict and explain spatial behavior within Nchumuru archaeological village sites.

The balance of evidence coming from the archaeological surveys and excavations, suggests that the Nchumuru settled in family groups in the area of Volta Region in small villages each approximately four to five hectares. The house structures clustered into quarters each representing a clan (*kabuno*) and having an ancestral shrine located in the center of the house of the head. Compared to the house forms in modern Wiae, early Nchumuru houses did not possess the L- and U-shape configuration which defines a field of space that has an inward and outward orientation. This has been demonstrated to indicate that, since they settled in the area the spatial potential of the settlement was being invoked to make up for what the social resources of the group could not provide.

Using a model termed the Local rule (L-R) model of spatial behavior, the paper explains that Nchumuru social system has been observed to operate at individual, clan (*kabuno*), and phratry (*kasuro*) levels. It is demonstrated that each of these levels of human social behavior follows spatial patterns that can be explained by an understanding of the opportunities offered by the social relationships (social resources) and the environment (natural resources). It is generalized that the organizational rules of the Nchumuru are not as rigid as those operative in the physical world, but they exhibit sufficient regularities to be recognized and described firstly as part of its major social group (the Guang) and then as Nchumuru, and also for explaining social and cultural continuities in the archaeology of their settlement history.

027
(1)4:129-138, 1983
(2)Skeletal Observation of a Wild Chimpanzee Infant (*Pan troglodytes schweinfurthii*) from the Mahale Mountains, Tanzania.
(4)Yasui, Kinya; Takahata, Yukio
(5)Laboratory of Physical Anthropology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(6)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)A wild female chimpanzee infant whose date of birth and death were roughly documented died in the Mahale Mountains, Tanzania. Observation and measurements of its skeletal remains and dental investigation by radiograph were carried out. The results of the measurements and the condition of cranial sutures coincide with those of previous studies, but the calcification of the crowns of $P\frac{3}{3}$ and $P\frac{4}{4}$ have already started by 1.8-1.9 months of age. These calcifications are slightly earlier than previous records have stated. These data serve to correct the data obtained from specimens in captivity or in

the wild whose exact ages are not known.

028

(1)5:1-48, 1984

(2)Urbanization and Adaptation: A Reorganization Process of Social Relations among the Maragoli Migrants in Their Urban Colony, Kangemi, Nairobi, Kenya.

(4)Matsuda, Motoji

(5)Department of Sociology, Osaka City University, 3-3-138, Sugimoto, Sumiyoshi-ku, Osaka 558, Japan.

(11)The retribalization phenomenon prevails in the most of African larger cities today. Though many of urban migrants do not seem to break away "tribal" social relations in town, the retribalization itself can be regarded purely contemporary, dynamic and urban phenomenon in spite of its appearance.

We would like to take up the Maragoli migrants from Western Kenya living in Kangemi, a poor housing area in Nairobi in order to bear out that kind of retribalization phenomenon. The retribalization phenomenon among them appeared as nothing less than survival mechanism on the extreme edge of subsistence in a severe urban environment. In order to elucidate this phenomenon, this paper adopts the following procedures.

Firstly, eight urban situations, where social relations are developed and organized, are chosen from the daily life of the Maragoli migrants in Kangemi. Secondly, the forms of reorganizing social relations (network/group type) are examined in each situation. Thirdly, the principles of reorganizing them (clan-lineage/village-homeboy/urban neighborhood-locality principle) are verified in each situation. Finally, we analyze how the village-homeboy principle, which has been rapidly developed in town, is embedded and reinterpreted in a traditional and dominant ideology of unilineal descent.

This paper takes an example of the eighth situation and focuses on social relations organized on the occasion of cooperation for transporting a deceased migrant's body back home. These activities are still mainly done by the extended family and clan members in the home land, but they are scarcely done by them alone in Nairobi, where they are replaced with home-boys. For the home-boy principle had been newly developed in town as base for cooperation. It might be pointed out that even in such a most traditional and culturally conservative situation as is concerned with funeral rites, the principle of reorganizing social relations has gradually changed from the clan-lineage principle to the home-boy principle, though it is already provided with legitimacy within the framework of the traditional ideology.

029

(1)5:49-62, 1984

(2)The Social Influence of Change in Hunting Technique among the Central Kalahari San.

(4)Osaki, Masakazu

(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)The Central Kalahari San are one of the few peoples remaining today who subsist by hunting and gathering. Under the guidance of the Botswana government, however, they have begun to live a sedentary life around the !Koi!kom borehole. Instead of traditional bows and arrows, they have adopted horses for hunting. Equestrian hunting (hunting on horse back) is more efficient and predictable than traditional bow-and-arrow hunting. The meat obtained by equestrian hunting is not shared with all member of the !Koi!kom settlement, because of the influence of trading, cash income, and the increase of the

population around the !Koi!kom settlement.

030
(1)5:63-74, 1984
(2)Aspects of Nyerere's Political Philosophy: A Study in the Dynamics of African Political Thought.
(4)Che-Mponda, Aleck Humphrey
(5)Department of Political Science and Public Administration, University of Dar es Salaam, P.O.Box 35042, Dar es Salaam, Tanzania.
(11)Plato and Aristotle described a society's leader as naturally selected by Divine Providence. They called him a "Prince" or the "Philosopher King." These characterizations remotely size-up Tanzania's Julius Kambarage Nyerere whose rise to prominence is quite fascinating. A "King" he was not. A "Prince" that he was. His own people rendered him great respect and called him "Mwalimu," the "philosopher," the "thinker." The term "Mwalimu" ordinarily means "teacher" but when reverence is injected into it, it means "thinker" or "philosopher."

Nyerere schooled in adulthood and became the first Tanganyikan to earn a Master of Arts degree. He accomplished the feat in 1952 at Edinburgh, Scotland. The five years he spent in colonial Britain were years of genuine universal nationalism. Pan-Africanism was in full swing since 1945 calling for self-determination for African peoples then under European imperialism and colonialism. And, following World War II and the formation of the United Nations in 1945, the flame of Tanganyika's nationalism was lit and Nyerere was its bearer. He led Tanganyika to independence by 1961 and to union with destabilized Zanzibar in 1964 to form the current Tanzania. Nyerere was at the helm in Tanzania for over two decades earning for himself and for his country international respectability and domestic tranquility.

031
(1)5:75-89, 1984
(2)Focus on Foreign Aid: The Case of Select Norwegian Aided Projects in Tanzania.
(4)Che-Mponda, Aleck Humphrey
(5)Department of Political Science and Public Administration, University of Dar es Salaam, P.O.Box 35042, Dar es Salaam, Tanzania.
(11)Under the United Nations categorization, Tanzania is one of the 25 poorest countries in the world. The world community of nations has positively come to the aid of these nations. Tanzania is one of the poor countries with an effective alternative development strategy. For, aid is most effective where the recipient country has a defined area of need in order that foreign aid may became a proper supplement to national resources for the identified endeavors. Tanzania has committed herself to socialist construction with ingenious specificity. Her main goal is to reach self-reliance with foreign aid being accepted as a catalyst.

Norway is among the many countries which have generously come to the aid of Tanzania. More exemplarily, Norway has even given a grant to Tanzania for Tanzanians to evaluate Norwegian aided projects in Tanzania. Most donor countries shy away from such a venture fearing exposures which could prove embarrassing! I had just returned home from being an Assistant Professor of Government and International Studies at University of Notre Dame, U.S.A., in September 1976, when I was called upon to be field supervisor of the evaluation effort. Thus, this paper contains first hand experiences of the man on the scene.

032
(1)5:91-92, 1984
(2)Seed Dispersal by Chimpanzees: Supplementary Note 1.
(4)Takasaki, Hiroyuki; Uehara, Shigeo
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(6)Faculty of General Education, Sapporo University, 3-1, 3-7, Nishioka, Toyohira-ku, Sapporo, Hokkaido 062, Japan.
(11)Six species of fruit (*Saba florida/Landolphia owariensis, Garcinia huillensis, Azanza garckeana, Parkia filicoidea, Zanha golungensis*, and *Strychnos innocua*) seeds collected from chimpanzee feces were tested for germinability in the Mahale Mts., western Tanzania. Among the seeds tested, there were viable ones from all 6 species. This indicates, together with the previous study, that virtually all fruit species whose seeds are commonly seen in chimpanzee feces between September and November in Mahale are effectively disseminated by chimpanzees.

033
(1)6:1-16, 1986
(2)Vertical Distribution and Seasonal Abundance of Zooplankters in Lake Tanganyika.
(4)Narita, Tetsuya; Mulimbwa, Nisibula; Mizuno, Toshihiko
(5)Otsu Hydrobiological Station, Kyoto University, 4-1-23 Shimo-sakamoto, Otsu, Shiga 520-01, Japan.
(6)Institut de Research Scientifique/Uvira, Sud-Kivu, Zaïre.
(7)Laboratory of Biology, Osaka Aoyama College, 2-11-1 Niina, Minoo, Osaka 562, Japan.
(11)Vertical distribution and seasonal abundance of zooplankters were studied in Lake Tanganyika. Faunal composition of zooplankton was simple. *Limnocnida tanganicae*, copepod nauplii, *Diaptomus simplex*, cyclopoids, and shrimp were collected by closing nets. Nauplii were dominant in number, but cyclopoid copepodites were dominant in biomass. The biomass calculated was in the range of 1.2-3.7 (average 2.3) g/m^2 excluding shrimp and medusa. For the vertical distribution of the copepods, the larger the size, the deeper the layers they stayed in the daytime, and the more remarkable diel vertical migration they showed. Chlorophyll-*a* amount was high at the end of September and in October, which coincides with the bloom of *Anabaena* and *Dictyosphaerium* off Myako. The time of phytoplankton boom off Myako seemed to correspond with that of other parts of the lake as cited in the literature. The number of *Diaptomus* females with eggs increased in September and October, and the number of shrimp also increased in October. The increse of *Diaptomus* females with eggs corresponded with phytoplankton abundance. The seasonal abundance and high reproduction of zooplankters seemed to be a product of the abundance of phytoplankton in Lake Tanganyika.

034
(1)6:17-23, 1986
(2)Abundance of Zooplankters on a Rocky Shore of Lake Tanganyika: A Preliminary Report.
(4)Kondo, Takaki; Hori, Michio
(5)Department of Biology, Osaka Kyoiku University, 4-88 Minamikawahori-cho, Tennoji-ku, Osaka 543, Japan.
(6)Department of Biology, Wakayama Medical College, 651 Hironishi, Wakayama 649-63, Japan.

(11)Abundance of zooplankters was examined by net collection on a rocky shore at the northwestern end of Lake Tanganyika in February 1980 and August 1983. Zooplankters found were *Mesocyclops leuckarti, Diaptomus simplex, Ergasiloides* sp. (Copepoda), Ostracoda, shrimps, *Asplanchna* sp. (Rotifera) and *Vorticella* sp. (Protozoa). Species composition of zooplankton was rather simple and characterized by the dominance of Copepoda, especially nauplii and cyclopoid copepodites. Nauplii smaller than 0.2 mm in body length were more abundant in August than in February, which suggests that the reproductive activity of copepods changes seasonally. The density of zooplankters tended to be lower at the bottom in the daytime, probably because of the predation by fish. The density of copepods changed with the time of day; low at noon and high in the afternoon. Such diel fluctuation in the abundance of copepods may influence the feeding activity of fish.

035
(1)6:25-27, 1986
(2)Posture of *Iridina spekei* (Bivalvia: Mutelidae) on the Flat Sandy Bottom of Lake Tanganyika.
(4)Kondo, Takaki
(5)Department of Biology, Osaka Kyoiku University, 4-88 Minamikawahori-cho, Tennoji-ku, Osaka 543, Japan.
(11)Length, height and angle of the exposed part of mussel, *Iridina spekei*, above the bottom were examined on the sandy flat of Lake Tanganyika. The larger mussel protruded higher above the bottom, which seemed to be advantageous to scatter sperm or larvae farther in order to increase chances of the fertilization or parasitism of larvae on fish. Immature mussels seemed to lie hidden to avoid predation by fish.

036
(1)6:29-36, 1986
(2)Description of Larvae and Juveniles of Cichlid in Lake Tanganyika (Osteichthyes: Cichlidae) (I).
(4)Mihigo, Ngabo Ya Kahayira
(5)B.P. 1412, Bujumbura, Burundi.
(11)Morphological descriptions are done in larval stage of the following four species of cichlid fishes in Lake Tanganyika: i.e., *Perissodus microlepis, Lamprologus elongatus, Lamprologus tretocephalus* and *Aulonocranus dewindti*.

037
(1)6:37-44, 1986
(2)Comparative Study on the Food Habits of Six Species of *Lamprologus* (Osteichthyes: Cichlidae).
(4)Gashagaza, Masta Mukwaya; Nagoshi, Makoto
(5)Uvira Centre, Institut de Recherche Scientifique, Zaïre, B.P. 254, Bujumbura, Burundi.
(6)Faculty of Fisheries, Mie University, 2-80 Edobashi, Tsu, Mie 514, Japan.
(11)The comparative study on the food habits of six species of the genus *Lamprologus, L. brichardi, L. elongatus, L. lemairei, L. modestus, L toae* and *L. tretocephalus*, on the northwestern coast of Lake Tanganyika was examined by analyzing stomach contents.
In every species, copepods were the predominant food item for their post-larvae. In the fry stage copepods are also dominant items except for *L. lemairei* and *L. tretocephalus*, in which benthonic animals increase and become dominant food items.

The food habits of these species change between fry and subadult stages except for *L. brichardi*. The characteristic food habit of each species appear at its subadult stage as follows: i.e., zooplankter feeding in *L.brichardi*, benthonic animal feeding in *L. modestus, L. toae* and *L. tretocephalus*, and piscivorous in *L. elongatus* and *L. lemairei*.

038
(1)6:45-55, 1986
(2)Aspects of Nyerere's Economic Thought: A Study in the Dynamics of African Leaders' Aspirations in Directing Their Countries' Economic Growth after Independence.
(4)Che-Mponda, Aleck Humphrey
(5)Department of Political Science and Public Administration, University of Dar es Salaam, P.O.Box 35042, Dar es Salaam, Tanzania.
(11)African independence challenged the new nations of Africa with how best to bring about the betterment of life. Before independence, Africans were subordinated and given a low priority in the sharing of their countries' economic blessings. Therefore, with the withering away of colonialism, African leaders had to think of how best to bring about development for their respective countries. Developmental strategies that ensued ranged from trial and error to dogmatic and pragmatic. However, imperialism did not leave them alone.

Many leaders were overthrown regardless of the endearment of their nationals. And, the resulting economic situation was in shambles. Natural disasters did not spare the African new states. Then again Africans' own warrings retarded their economic growth. This paper looks into the ways and means of one of Africa's leaders, Julius Kambarage Nyerere of Tanzania, as for over two decades he struggled toward making Tanzania an economically viable nation-state.

039
(1)6:57-66, 1986
(2)Cultural Adaptation in West Africa.
(4)Omokhodion, Dem
(5)Department of Sociology and Anthropology, University of Benin, Benin City, Nigeria.
(11)A Late Stone Age tradition characterized by microlithic tools appears to have originated in the forest region of West Africa. This was later influenced by waves of pottery making and iron technology from across the Sahara. Associated with these influences was the domestication of animals and cultivation of plants. At first, these West African communities were probably composed of sedentary village farmers or nomadic pastoralists who also practiced hunting and collecting. Agriculture appears to have led to population growth and long distance mercantile activities. There is a steady concern with abstract representations beginning with engravings on rocks and ostrich eggshells in the Sahara, followed by the making of clay models of domesticated animals in the grassland zones and then clay figures in human form as represented in Nok art. The evidence indicates that the art traditions were connected with the use of magic or witchcraft and with cosmological beliefs as social markers and as agents of social control.

040
(1)6:67-70, 1986
(2)Features of Benin Art.
(4)Omokhodion, Dem

(5)Department of Sociology and Anthropology, University of Benin, Benin City, Nigeria.
(11)Benin art is characterized by unique media, form and techniques. Some features such as ethnic marks on memorial heads, animal motifs, composite images, and geometric designs, suggest the importance of Benin art in public symboling, and as historical markers. The art also suggests the role of magic in political authority and this may have been a general principle in West Africa.

041
(1)6:71-81, 1986
(2)To Run a City Government: The Case of Dar es Salaam, Tanzania.
(4)Che-Mponda, Aleck Humphrey
(5)Department of Political Science and Public Administration, University of Dar es Salaam, P.O.Box 35042, Dar es Salaam, Tanzania.

042
(1)7:1-14, 1987
(2)Distribution of Fishes in Relation to the Depth and Substrate at Myako, East-Middle Coast of Lake Tanganyika.
(4)Kuwamura, Tetsuo
(5)Laboratory of Biology, Faculty of Liberal Arts, Chukyo University, 101-2 Yagotohonmachi, Showa-ku, Nagoya 466, Japan.
(11)Distribution of fishes were studied in the lacustrine and riverine waters of Myako in the Mahale Mountains National Park of Tanzania, east-middle coast of Lake Tanganyika. One hundred and four species were recorded from the lake by the underwater surveys and also by the overnight gill-net collections. These included 77 species of cichlids (49 mouthbrooders and 28 substrate-brooders) and 27 noncichlids in 12 families. In a small river of Myako 7 species including one cichlid were collected, 3 of which were also distributed in the lake. Based mainly on the census along 7 lines extended 100-250 m offshore (down to 12-49 m deep), the distribution of fishes were analyzed with respect to the depth and substrate. Noncichlids were much less frequently observed during the census. Most of the fishes associated with rocky areas. More than half of the mouthbrooders of cichlids restricted their distribution within shallow (<5 m) rocky areas, while substrate-brooders generally exhibited wider habitat preference both in depth and substrate. The different distribution patterns are discussed in relation to feeding and breeding habits.

043
(1)7:15-19, 1987
(2)Drosophilid Flies (Diptera) in the Mahale Mountains National Park, Tanzania: A Preliminary Report.
(3)Drosophilid fly; Mahale Mountains, Circumtropical species; Afrotropical species.
(4)Takada, Haruo; Uehara, Shigeo
(5)Faculty of General Education, Sapporo University, 3-1, 3-7, Nishioka, Toyohira-ku, Sapporo, Hokkaido 062, Japan.
(6)Faculty of General Education, Sapporo University, 3-1, 3-7, Nishioka, Toyohira-ku, Sapporo, Hokkaido 062, Japan.
(11)Eight species of drosophilids were collected at Kasoje in the Mahale Mountains National Park, western Tanzania, during the wet season of 1983-1984; one circum-tropical species and seven Afrotropical species, all of which are new records from Tanzania.

The distributions of respective species known so far suggest some affinities in the drosophilid fauna between the Mahale Mountains and central and western Africa.

044
(1)7:21-35, 1987
(2)Antivenomous Plants Used in the Zairean Pharmacopoeia.
(4)Chifundera, Kusamba
(5)Département de Biologie, Laboratoire d'Herpétologie, Centre de Recherche en Sciences Naturelles-Lwiro, DS Bukavu, Kivu, Zaïre.
Mailing Address: Aux soins de CEMUBAC, B.P.67, Cyangugu, Rwanda.
(11)Ethnobotanical inquiries were made in Zaire to collect plants traditionally used for treatment of envenomations. As a result, a checklist of 109 antivenomous plants is presented with their scientific and vernacular names, the locality and the directions for use for each plant.

The Zairean antivenomous plants are grouped in three categories: the repulsive, the protective and the curative plants. The part used depends on the structure of the plant. For trees and shrubs, barks and roots are used. Sometimes leaves, fruits and flowers may be collected. For herbaceous plants, the whole plant is used. Drugs (decoction, infusion and maceration) are administrated to the victim orally or externally.

045
(1)7:37-51, 1987
(2)The Recent Changes in the Life and Society of the Central Kalahari San.
(3)Hunter-gatherers; Ecology; Acculturation; Social changes.
(4)Tanaka, Jiro
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)Sedentarization of the Central Kalahari San, a hunting-gathering people, is in progress following the introduction of school, medical clinic, stable water supply, etc. to their habitat. This paper describes the changes in hunting and gathering activities, residential patterns, and distribution of meat among individuals due to these introduced impacts, and analyzes the people's reactions to the modernization reflected in the coexistence of traditional egalitarianism and introduced monetary economics, the conflicting old and new value systems, and the changes of social maintenance mechanisms due to the concentration of population.

The concentration of about 500 people at one settlement resulted in the disappearance of vegetable foods around the settlement and the gathering activities became inefficient and infrequent. Also the hunting field became distant, and , in place of the former solitary bow-and-arrow hunting, equestrian hunting by means of horses and donkeys became popular. The inflow of monetary economics, change of hunting methods, and concentration of population induced a great change in the distribution of meat in spite of little change in the per capita supply of meat. Although there coexist the traditional value system and the introduced value system in various perspectives, the people selectively imbibe the introduced culture, and integrate it into a new culture of their own. However, the present state is transitional, and there are many problems.

046
(1)7:53-63, 1987
(2)Charter of the Organization of African Unity and Problems of African Unity.

(4)Che-Mponda, Aleck Humphrey
(5)Department of Political Science and Public Administration, University of Dar es Salaam, P.O.Box 35042, Dar es Salaam, Tanzania.
(11)African unity is a genuine desire of African peoples on the continent itself and the surrounding islands. It is a spark turned on by Africans in diaspora through Pan-Africanism, in opposition to the denial of self-determination of African peoples by colonialism and imperialism. Traditionally, the Africans were introverted in their political activities while contacts with the outsiders were a secondary variable. With the struggles against subjugation came the perception that the totality of Africa had a common front, hence the desire for unity. However, the ensuing Organization of African Unity formed in 1963 became a leaders-centered community and not a grass-roots organization. The O.A.U. is actually an "Organization of African States" not of "African Unity" according to the Charter prescriptions. This paper thus calls for the need to set the matter straight.

047
(1)7:65-80, 1987
(2)Ethnicity, Politics and Development in Tanzania.
(4)Omari, C.K.
(5)Department of Sociology, University of Dar es Salaam, P.O.Box 35091, Dar es Salaam, Tanzania.
(11)Ethnicity relation in Africa is a sensitive issue. Tanzania is no exception to this. She has, however, been able to unite about 120 different ethnic groups to form a nation.

In Tanzania ethnicity alliance is an asset rather than a hindrance to the development of the country. Ethnicity is the basis for the political constituencies. All elected members to the Parliament must come from a recognized constituency, which unfortunately, is along the ethnicity lines. Ethnicity is also used for the mobilization of financial resources for the self-help programs in the rural areas. People from a certain ethnic-group who happen to live in urban areas meet among themselves to collect money for the building of a dispensary or school in their perspective rural areas.

This article describes, however, a problem which occurred during Nyerere time. That is, most of the high offices were held by people from his area-Mara Region. Although not all from the same ethnic group as that of Nyerere, but since they are from the same zone or region, this strengthened the regional or zonal identity and power structure.

At another level this article shows that due to ethnicity and regional/zonal identity, the gap of development will widen because some ethnic group will take advantage in the allocation of resources depending on who is in power at high level.

048
(1)7:81-87, 1987
(2)Loan-Words in Kirundi: A Preliminary Study.
(4)Niyonkuru, Lothaire
(5)Department of African Languages and Literature, School of Letters and Humanities, University of Burundi, B.P. 1550, Bujumbura, Burundi.
(11)This paper examines the socio-cultural and historical factors that shaped the lexicon of the Kirundi language. The first part is a sketch of the ethnic composition and socio-linguistic situation of Burundi. The second part is a review of the historical context (mostly in the nineteenth and twentieth centuries) in which African, Asian and European linguistic communities came into contact with the Kirundi-speaking population.

The paper discusses phenomena such as regional trade, migrations, colonial rule and civil war, and their demographic and cultural impacts which are relevant to an understanding of the roots of the contemporary Kirundi vocabulary.

049
(1)8[1]:1-69, 1987
(2)Livestock Individual Identification among the Turkana: The Animal Classification and Naming in the Pastoral Livestock Management.
(3)Livestock classification; Livestock naming; Livestock management; Turkana.
(4)Ohta, Itaru
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)This paper analyzes the relationship between man and livestock through the examination of the livestock classification system and naming of individual animals among the Turkana, northwestern Kenya.

In the Turkana's management system, livestock are treated as classes according to their attributes based on the classification system. The notion of distinct individuality is irrelevant to this kind of treatment. On the other hand, individual identification of livestock is indispensable not only to the livestock management, but also to maintaining the human social relationship, which is mediated by livestock transfer.

The former aspect is examined through analyzing livestock classification system. In the Turkana's classification system, a stress is put on the five domains: age-sex, coat color, horn shape, ear shape including ear markings, and brand marks. The management techniques relevant to producing categories of the livestock are described and analyzed.

The method is described to check the presence of the members of a herd (195 goats) which are managed together in day-trip herding. The total herd is divided into several small units, and the members of each unit are checked one by one. The Turkana selectively apply several attributes of livestock for the unit formation. This division of the herd can be regarded as a livestock classification in a specific situation. After being divided into units, all the individuals are checked one by one. In this checking, livestock are treated as classs by being divided into small units, and also as distinctive individuals by being checked one by one.

The aspect of livestock individuality is examined through the giving of individual names. The Turkana give proper names to all the parous females which are milked. Etymologies of 350 names are examined. All names refer to certain attributes of the named subjects. While livestock have many attributes, only one attribute is referred to in most names.

The significance of individual identification in pastoral societies is discussed. It is important functionally, because people should make the pairs of mother and offspring encounter after the separation during a day-trip herding, for milking the mother and for the offspring's nutrition. Individual identification of livestock has close connection also with the social relationships which are created and sustained by livestock transfer. Each transfer can be regarded as distinctive only when each transferred individual is identified as an irreplaceable unique animal. Livestock individuality is discussed also in relation to the identification between man and cattle in East African pastoral societies.

050
(1)8[2]:71-85, 1987
(2)Rainmaking Rituals: A Comparative Study of Two Kenyan Societies.

(3)Rainmaking; Processions; Magic; Prophesy; Occult.
(4)Akong'a, Joshua
(5)Institute of African Studies, University of Nairobi, P.O.Box 30197, Nairobi, Kenya.
(11)A comparative examination of the public rainmaking rituals in Kitui District and the secret rainmaking rituals in Bunyore location of Kakamega District, both in Kenya, reveals that public rituals are more susceptible to rapid social change than those of secret. Secondly, although rainmaking rituals are a response to scarcity or unreliability that are rainfall, such rituals can be found even in the areas of adequate rainfall either because the people once lived in an area of rainfall scarcity or the rainmakers are strangers who came from such areas. Thirdly, the efficacy of rainmaking rituals is based on faith, and due to the involvement of the supernatural, they have socio-psychological implications on the participants.

051
(1)8[2]:87-109, 1987
(2)A Methodology for Housing Stock Assessment Applied to Land Use Planning in the Niger Delta Nigeria: The Bonny Town Case Study.
(3)Nigeria; Coastal settlement; Land use; Housing planning.
(4)Bell-Gam, Winston I.
(5)Rivers State University of Science and Technology, PMB 5080, Port Harcourt, Nigeria.
(11)A methodology of housing stock evaluation based on stratified random sampling of geographic grid squares is used to examine the demand for housing in Bonny Town, an ancient coastal settlement which dates from the 15th century. Demand for housing and, subsequently, land for housing development, is derived from a simple extrapolation of present estimates of population growth rates similar to the rates officially employed by Nigeria in national planning.

Ultimately, land required for domestic housing is a forecast for the rest of the present century. The process adopted for this matching of stock and demand has generated data such as total number of households, number of persons per household as well as a categorization of housing types in Bonny which typifies human settlements in the estuarine and coastal zone area of the Niger Delta Nigeria.

A basic planning methodology is introduced for practice at levels below which conventional land use decisions are made in Nigeria.

The capacity of the methodology of multi-subject application would make it useful for the planning of land, water resources, energy and other infrastructure which tend to constrain economic development in the third world.

052
(1)8[2]:111-123, 1987
(2)On a Small Collection of Lizards and Snakes from Cameroon, West Africa.
(3)Lizards; Snakes; Herpetofauna; Tropical evergreen forest.
(4)Ota, Hidetoshi; Hikida, Tsutomu; Barcelo, Jean
(5)Department of Zoology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(6)Department of Zoology, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(7)Kyoikusha, Hourai Bldg., Nishi-shinjuku, Shinjuku-ku, Tokyo 160, Japan.
(11)A small number of lizards and snakes, obtained by the Kyoto University expeditions to the southwestern part of Cameroon, West Africa, are examined. The collection consists

of three species of lizards and 10 species of snakes. External characteristics of the specimens are presented, together with results of brief ecological observations.

053
(1)8[2]:125-128, 1987
(2)Further Medicinal Plant Consumption in Wild Chimpanzees?
(3)*Pan troglodytes schweinfurthii*; *Lippia plicata*; Feeding ecology; Diet; Medicine.
(4)Takasaki, Hiroyuki; Hunt, Kevin
(5)Serengeti Wildlife Institute, Mahale Mountains Wildlife Research Centre, P.O.Box 1053, Kigoma, Tanzania.
(6)Department of Anthropology, University of Michigan, Ann Arbor, Michigan 48109, USA.
(11)Leaves of *Lippia plicata* Baker (Verbenaceae) were consumed by an adult female of the M group chimpanzees in the Mahale Mts. National Park, western Tanzania. The leaves were consumed in a manner similar to the leaves of *Aspilia* spp., previously suggested to be used as medicine by Mahale and Gombe chimpanzees. Evidence from bioassay and from African ethnographical and pharmacological records for the use of *Lippia* spp. suggest that the consumption of *L. plicata* by the chimpanzee in also medicinal.

054
(1)8[3]:129-143, 1988
(2)Essai sur la Contribution de Paul Richards a la Compréhension de l'Agriculture Paysanne en Afrique.
(3)Small-scale farmers; Indigenous skills; Development process.
(4)Kalala, Kamwanya
(5)Department of Agricultural Economics, Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Paul Richards, from agrarian populism approach, shows successfully in his books, *Indigenous Agricultural Revolution* and *Ecology and Food Production in West Africa*, that African small-scale farmers, even poor and scattered, are ecologically inventive and skillful in their environment.

For this author, the most effective and rapid rates of agricultural change will occur when state resources are used to back changes that small-scale farmers are already keen to make. Then, agricultural research must lay especial emphasis on the ways in which farmers explore their environment, invent new techniques, and figure out innovative approaches to both familiar and unprecedent problems. Local inventiveness is a resource that might be better integrated, and not replaced, into the wider development process.

Below we'll shortly summarize P. Richards main ideas and arguments and give our opinion in the commentary.

055
(1)8[3]:145-157, 1988
(2)Arms and Armour in the Warfare of Pre-Colonial Hausaland.
(3)Arms; Armour; Army organization; Tactics; Warfare.
(4)Achi, Bala
(5)Department of History, Advanced Teachers' College, Ahmadu Bello University, Zaria, Nigeria.
(11)Warfare was an important factor in pre-colonial Hausaland in the expansion and consolidation of such Hausa States as Daura, Zaria, Katsina, Kano and Kebbi. It also

contributed to the disintegration of the conquered areas. It took the forms of either military confrontations, ambushes, or raids in which all available forces were marshalled to defeat the enemy entirely and to force the loser accept the conditions of the victor. The weapons of attack and of defense are a reflection of the technological achievement, political centralization, geographical position and the economic base of the society.

In this paper, attention is focused on the weapons of attack and of defense manufactured and improved upon over time to meet new tactics and strategies of war. These changes in weapons were costly affairs that could only be met by societies with a sound economic base. This paper also traces the evolution of military specialists in Hausaland and how these were mobilized and organized by Hausa Kings to meet the war requirements of the society.

In the conclusion, the paper contrasts warfare in Hausaland with warfare in other areas and comes to the conclusion that success in war was a combination of strength and skill. The paper laments, the technological stagnation of the area today which is traceable to the imposition of colonial rule in the early 20th century.

056
(1)8[3]:159-163, 1988
(2)A Result of Drosophilid Survey in Tanzania.
(3)Drosophilid fly; Mahale Mountains National Park; Drosophilidae; *Zaprionus*; *Drosophila*.
(4)Okada, Toyohi; Asada, Nobuhiko; Kawanaka, Kenji
(5)2-30-8 Gotokuji, Setagaya-ku, Tokyo 154, Japan.
(6)Biological Laboratory, Faculty of Science, Okayama University of Science, 1-1, Ridai-cho, Okayama 700, Japan.
(7)Laboratory of Anthropology, Faculty of Science, Okayama University of Science, 1-1, Ridai-cho, Okayama 700, Japan.
(11)Thirteen species of Drosophilidae were collected at the Mahale Mountains National Park, western Tanzania, in August to November, 1986. These species belong to two genera, *Zaprionus* and *Drosophila*. Ten of the 13 species are new records from Tanzania.

057
(1)8[3]:165-172, 1988
(2)Le Régime Alientaire du Lezard Tropical Africain *Agama Cyanogaster* Rüppell. 1835 dans la Région de Lwiro, est du Zaïre.
(3)Lizard; Stomach contents; Diet; Insects; Annual variation.
(4)Chifundera, Kusamba
(5)Département de Biologie, Centre de Recherche en Sciences Naturelles, Lwiro, DS Bukavu, Zaïre.
Mailing Address: Aux soins de CEMUBAC, B.P.67, Cyangugu, Rwanda.
(11)The analysis of stomach contents of the African tropical lizard *Agama cyanogaster* Rüppell, 1835 shows that the diet is exclusively composed of invertebrates (90%) where insects are predominant (81.75%). Plants make up only about 10% of the diet. The male eats more plant matters (14.58%) than the female (5.69%). The diet is largely dependent on the annual variation of the rainfall.

The relative importance of insects eaten is in the following order: Hymenoptera (33.50%), Lepidoptera (22.71%), Orthoptera (17.90%), Coleoptera (15.49%) and the other groups (10%).

058

(1)8[4]:173-211, 1988

(2)Visiting Relations and Social Interactions between Residential Groups of the Central Kalahari San: Hunter-Gatherer Camp as a Micro-Territory.

(3)G/wi and G//ana San: Visitor; Micro-territory; Greeting; Face-to-face interaction.

(4)Sugawara, Kazuyoshi

(5)Department of Behavioral Science, Faculty of Letters, Hokkaido University, N.10 W.7 Kita-ku, Sapporo, Hokkaido 060, Japan.

(11)Since 1979, the Botswana government prompted the Central Kalahari San in the ≠Kade area to settle at !Koi!kom. In this sedentary community, I observed visiting activity between residential groups (camps). Visiting activity of females is based on close kinship relations among them, while male social relationships range beyond the boundary of their linguistic group. Economic transactions, such as giving-and-receiving-goods and serving-and-consuming-food, frequently occur during visiting. The San men sometimes visit the camps of the Kgalagadi people, expecting some reward for their labor. Longitudinal analysis of the composition of visitors demonstrates that a great part of the San living in camps other than the study group have never visited the latter during both the first (1982/83) and the second (1984/85) study periods. The discontinuity found in the networks of visiting relationship among the sedentary community leads us to reconsider the concept of 'band.'

The spatial organization of camp can well be characterized as a multi-layered micro-territory. Greeting interaction is a specific way in which those who enter into the micro-territory establish the focused interaction with its occupants. Most greeting episodes are exchanged between adult males in a relatively distant relationship. Various kinds of small behavior other than greeting can be also understood in terms of strategies for visiting and receiving. The ground rules, or conventional programs, governing the San greeting reveal two main themes; the openness of a camp and the definite distinction between residents and non-residents. The camp as a micro-territory is open, as the residents have no means to refuse a visitor. But the residents are situationally dominant to the visitor, as they enjoy the privilege of introducing the latter into the focused interaction, by initiating greeting.

059

(1)8[4]:213-236, 1988

(2)Firro and Slufay: The Traditional Litanies of the Iraqw.

(3)Oral literature; Poetry; Traditional litany; Iraqw; Tanzania.

(4)Kamera, W.D.

(5)Narok University, Muguga Campus, P.O.Box 111, Kikuyu, Kenya.

(11)The poetic appeal and potential of *Firro* and *Slufay* have often been alluded to but not rigorously studied owing to the unavailability of reliable texts of a certain or desirable magnitude. This paper attempts, among other things, to provide such texts to enrich the already existing materials and to stimulate further research.

The discussion of the qualities and procedures of this genre of Oral Literature is slanted towards seeing *Firro* and *Slufay* as communal poetry of the Iraqw which springs from and continues to be fueled by their traditional litanies.

060

(1)9[1]:1-9, 1988

(2)Feeding Activity of a Tanganyikan Cichlid Fish *Lamprologus brichardi*.

(3)Diel periodicity; Feeding activity; Cichlid fish.
(4)Gashagaza, Masta Mukwaya
(5)Station d'Uvira, Centre de Recherche en Sciences Naturelles, B.P. 73, Uvira, Zaïre.
Mailing Address: Centre de Recherche en Sciences Naturelles, B.P. 254, Bujumbura, Burundi.
(11)Feeding activity of *Lamprologus brichardi* was observed at Luhanga from August to November 1983. The fish was active in the daytime and inactive in the night time. All stages of the fish feed on zooplankters and suspended materials in open water. Diel change of patterns of feeding rate and feeding height of the fish were bimodal, high in the morning, 07:00–11:00 and in the afternoon, 13:00–16:00. It is suggested that the density of zooplankter might have been one of the factors initiating feeding activity of the fish. Seasonal change in feeding activity of the fish was recognized, high in dry season and low in rainy season. Turbidity of water and breeding activity in rainy season were considered to produce the decrease of the feeding activity.

061
(1)9[1]:11–53, 1988
(2)Trois Cents Noms de Personnes Lega: Au-Delà des Figures.
(3)Personal name; Legal; Proverb.
(4)Malasi, Ngandu M.
(5)Département de Documentation, Centre de Recherche en Sciences Naturelles. D.S. Bukavu, Zaïre.
Mailing Address: Aux Soins du CEMUBAC, B.P. 67 Cyangugu, Rwanda.
(11)This paper aims at describing and analyzing the personal names of the Lega people in Eastern Zaire. While a person's name is generally thought to designate a specific person, it also stands as a symbol of the thought of the community to which he belongs, and makes the designated person a kind of monument which reminds the people of the experience at a particular period of their history. A total of 300 personal names are collected among the Lega and the messages conveyed by these names are decoded. Then the names are classified into 64 types according to the meaning they convey. Besides the description of personal names as message, more than 140 Lega proverbs are also presented. It is pointed out that a study of the Lega personal names should necessarily involve a study of their proverbs. The latter serves as the ground for further research of the Lega language, mainly proverbial language which takes a special form of speech and is spoken exclusively by adult men.

062
(1)9[1]:55–64, 1988
(2)Introduction to AFlora: An On-Line Database for Plant Utilization Information of Africa.
(4)AFlora and AFauna Committee
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.

063
(1)9[2]:65–84, 1988
(2)Comparative Osteology of the Suspensorial Complex of Algal-Feeding Cichlids (Pisces, Teleostei) from Lake Tanganyika.
(3)Lake Tanganyika; Cichlidae; Algal feeder; Suspensorial complex; Comparative morphology.

(4)Yamaoka, Kosaku
(5)Department of Cultural Fisheries, Faculty of Agriculture, Kochi University, 200B Monobe, Nankoku, Kochi 783, Japan.
(11)The comparative osteology of the suspensorial complex in 20 species of epilithic algal feeders from Lake Tanganyika was studied as a means of obtaining fundamental data for understanding the adaptive radiation in feeding habits of cichlid fishes in the East African lakes. Six types of suspensorial complex could be recognized within the 20 species studied. For the palatine, ectopterygoid, entopterygoid, metapterygoid, quadrate, symplectic, preoperculum and hyomandibula, 5, 2, 3, 3, 5, 2, 2 and 5 types were recognizable respectively. The relation between the morphology of the suspensorial complex and feeding habits is discussed.

064
(1)9[2]:85-95, 1988
(2)Towards a Critical Analysis of the Concept of Workers' Participation as Introduced and Practised in Tanzania.
(3)Workers' participation; Critique; Tanzania.
(4)Musoke, Issa K.S.
(5)Department of Sociology, University of Dar es Salaam, P.O.Box 35043, Dar es Salaam, Tanzania.
(11)The paper addresses itself to the concept and practice of workers' participation in Tanzania by first pointing out the ideological, ethical and practical objectives for which it was intended to serve.

It starts by an enumeration of the various perspectives and expected effects on workers participation in management before tracing the history of the introduction of the system and practice in Tanzania pointing out the legal and political measures taken to introduce and facilitate the practice of workers' participation in the country.

The author concludes by pointing out how, despite the numerous legal and political measures taken to effect an effective and meaningful system of workers' participation in the country, this has not been the case. The above state of affairs is attributed to the lack of: (a) Positive managerial attitudes and commitment, (b) Political good will and commitment, (c) Strong, free and independent workers' organization to translate the above mentioned political goodwill and commitment into reality, (d) An effective organizational structure through which workers' participation can be catered for, and (e) Truly egalitarian policies. The paper ends with a more sad note whereby President Mwinyi's concept of "*Kuwajibika*" (Accountability) has been dubbed as "the latest nail onto the coffin of the wording class revolution in Tanzania."

065
(1)9[2]:97-107, 1988
(2)Preliminary Survey of Some Sites in Zangon Katab District of the Upper Kaduna Basin.
(3)Caves; Furnaces; *Katab*; Nok culture reconnaissance.
(4)Bitiyong, Yashim Isa
(5)Centre for Nigerian Cultural Studies, Ahmadu Bello University, Zaria, Kaduna State, Nigeria.
(11)At the time of initial survey, thirteen industrial, religious and settlement sites were located in the generally undulating Zangon Katab District area (9°31'N-10°N; 8°00'E-8°31'E), underlain by Basement Complex and drained by headstreams and tributaries of the River Kaduna, which were apparently related to human exploitation of

the environment, and they provide possible areas of archaeological investigations.

066
(1)9[3]:109-151, 1989
(2)Hunters, Clients and Squatters: The Contemporary Socioeconomic Status of Botswana Basarwa.
(3)Basarwa; San; Botswana; Hunter-gatherers; Clients; Development.
(4)Biesele, Megan; Guenther, Mathias; Hitchcock, Robert; Lee, Richard; MacGregor, Jean
(5)Ju/Wa Bushman Development Foundation, P.O.Box 9026, Windhoek 9000, Namibia.
(6)Department of Sociology and Anthropology, Wilfrid Laurier University, Waterloo, Ontario N2L 3C5, Canada.
(7)Department of Anthropology, University of Nebraska-Lincoln, 126 Bessey Hall, Lincoln, NE 68588-0368, USA.
(8)Department of Anthropology, University of Toronto, Toronto, Ontario M5S 1A1, Canada.
(9)Washington Center for Improving the Quality of Undergraduate Education, Evergreen State College, Olympia, WA 98505, USA.
(11)This paper examines the past and present socioeconomic situation of the Basarwa (Bushmen, San) of the Republic of Botswana. Changes in adaptive strategies are outlined, and it is shown that Basarwa groups have chosen a number of alternative lifestyles. In some cases, Basarwa have become clients of other groups; other people have been dispossessed and are now squatters on what used to be their land; and still others have continued foraging. Case studies of 5 communities are presented which range from the hunting and gathering !Kung of the Dobe region to the settled agro-pastoral Chwa of the Nata River area who are engaged in self-help activities. Changes which will have implications for the future of the Basarwa are discussed, including the land reform program in the tribal grazing areas, the remote area development efforts of the Botswana Government, and the militarization of !Kung and other Basarwa in Namibia. It is concluded that the future of the Basarwa will depend upon how political, economic, and environmental issues are resolved, and whether or not the Basarwa are included in decision-making regarding development action.

067
(1)9[3]:153-165, 1989
(2)Social Integration of the San Society from the Viewpoint of Sexual Relationships.
(3)San; Hunter-gatherers; Marriage; Love-relationship; Social integration; Botswana.
(4)Tanaka, Jiro
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)The Central Kalahari San, living in the central part of Botswana, practice divorce and remarriage frequently. Most people have experienced marriage more than twice in their lives. The rate of polygamous marriage is rather high, and moreover, a kind of love-relationship called *zaku*, which is usually recognized openly, is widely seen in this society. Four examples of social clusters united by marriage and other sexual relationships are here examined and analyzed to see how those sexual relationships affect inter-personal relations and residential grouping. This is done in order to clarify an aspect of the principle of San social integration.

068
(1)9[4]:167-179, 1989
(2)Incentive Schemes in Tanzania Industries: The Illusion of Choice.
(3)Workers' participation; Workers' motivation; Moral incentives; Material incentives.
(4)Musoke, Issa K.S.
(5)Department of Sociology, University of Dar es Salaam, P.O.Box 35043, Dar es Salaam, Tanzania.
(11)This paper attempts at a critical analysis of the system of both *material* and *moral* incentives how applicable in Tanzania.

The paper starts with a general discussion of the basic assumptions about human nature, the level of development of the forces of production and the ideological functions underlying the choice of any one or combination of the above system of incentives.

This is followed by a countdown of the types of both *material* and *moral* incentives currently applicable in Tanzania, followed by a critical evaluation in which it is pointed out that neither of the two types of incentives can "tick a worker." The *material* incentives are either too little to meet the worker's basic needs or just impossible to operationalize. The *moral* ones can only work after the basic material and *physiological* needs have been met, which does not seem to be the case in Tanzania.

The paper ends with a call for working out an incentive scheme that is tied to individual output and needs, and that *moral* incentives should be used sparingly and only to complement the *material* ones rather than acting as a substitute for them.

069
(1)9[4]:181-190, 1989
(2)Conflicts and Politics in Urban Planning in Tanzania.
(3)Urban planning; Colonialism; Conflict of ideology; Fragmentation of planning.
(4)Lugalla, Joe L.
(5)Department of Sociology, University of Dar es Salaam, P.O.Box 35043, Dar es Salaam, Tanzania.
Corresponding Address: Kasseler Str. 37, Apartment K.0-9, 2800 Bremen, 1, West Germany.
(11)This paper tries to discuss two important issues. First, it examines the conflict between ideology and actual urban planning in Tanzania. It is argued that, via the Arusha-Declaration, Tanzania showed the intention of building an egalitarian society based on the principles of Ujamaa (socialism). Hence one expected that an attempt to transform some colonial structures in order to suit the socialist aspiring nation could be in the agenda. In Tanzania this has never been the case at the level of urban planning.

The paper argues that the gap between theory and practice exists because Tanzania's socialist theory itself is weak, and does not emanate from a concrete class analysis of the society itself. Secondly, the paper examines the fragmentation of urban planning in Tanzania. Some legal provisions are contradicting as to who should be responsible for what in urban planning. This contradiction has created problems and conflicts between various organs responsible in urban planning. In all cases it is the majority urban poor who are suffering. The paper suggests that the urban planning in socialist aspiring countries must be unified, coordinated and part and parcel of the overall national development plan. Such move must be implemented in Tanzania.

070
(1)9[4]:191-196, 1989

(2)Notes on the History of Abuja, Central Nigeria.
(3)Abuja emirate; Ethnic diversity; Sokoto jihad; Technological development; Occupational groupings; Dependent relations.
(4)Thomas-Emeagwali, Gloria
(5)Department of History, University of Ilorin, Ilorin, Kwara State, Nigeria.
(11)This paper is concerned with aspects of the history of Abuja in the Central Nigerian region—an area designated as the new Federal capital of Nigeria. We examine some aspects of inter-group relations and then reflect on technological and economic development in the area. In the course of discussion, we reflect on aspects of iron technology, textile, leather processing and pottery and comment on issues related to trade in the region.

071
(1)9[4]:197-207, 1989
(2)Reasons for Female Circumcision among Some Ethnic Groups in Bendel State, Nigeria.
(3)Class and gender; Female circumcision; Patriarchy; Sexuality; Bendel State; Nigeria.
(4)Omorodion, Francisca Isi; Myers, Robert A.
(5)Department of Sociology and Anthropology, University of Benin, Benin city, Nigeria.
(6)Department of Sociology and Anthropology, Davidson College, Davidson, NC 28036, USA.
(11)This study documents and analyses the reasons for female circumcision among 5 communities in Bendel State of Nigeria. The commonest reason given for female circumcision is the strong desire to continue the custom or tradition. Other reasons given for the practice in terms of preference are, to protect babies during delivery, for aesthetic or cosmetic purposes, to enhance reproduction, as well as to increase or decrease sexual urge of women. However, the authors hold the view that those explanations given for female circumcision are subsumed under the issue of patriarchy or male-dominance, as well as under class and gender problems. Also this study is intended to provide the basis for planning the strategies essential for the eradication or elimination of the practice.

072
(1)9[4]:209-220, 1989
(2)Inter-Unit Group Transfer of an Immature Male of the Common Chimpanzee and His Social Interactions in the Non-Natal Group.
(3)Common chimpanzee; Male group transfer; Mahale Mountains National Park.
(4)Takahata, Hitomi; Takahata, Yukio
(5)1-7-2-202, Higashihiraki-cho, Takano, Sakyo-ku, Kyoto 606, Japan.
(6)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)In the Mahale Mountains National Park, Tanzania, a mother-son pair of the common chimpanzee transferred from K group to the neighboring M group. This inter-group transfer resulted from the decrease of the male members of K group. The male immigrant of 5-year-old had varied relations with the M group members of each age-sex class. He mated with estrous females, played with adolescents and juveniles, though had few interactions with non-estrous females. In particular, while he was away from his mother for 10 days, he unilaterally followed the adult males of M group, though his younger brother who had been born in this group was killed and eaten by them. The present case clarifies two characteristics of common chimpanzee society, the strong tie

between mother and son and the attractiveness of adult males for immature males.

073
(1)10[1]:1-38, 1989
(2)Actual Situation of Agriculture in Sub-Saharan Africa: The Case of Zaire.
(3)Peasants' agriculture; Agricultural crisis; National bourgeoisie; Sub-Saharan Africa: Zaire.
(4)Kalala, Kamwanya
(5)Department of Agricultural Economics, Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Agriculture remains the principal component of economic development in most African countries. Consequently, it is absurd to think of development without an adequate agricultural policy as it is the case today.

An adequate strategy of agricultural development in Zaire necessitates the analysis of the causes of current agrarian crisis and, in particular, the understanding of how the additional agricultural output generated by the peasant community is monopolized by the commercial bourgeoisie. Expansion of the agricultural production (not only cash crops but also food production) should bring economical gains both to the state, the commercial bourgeoisie and to the peasants. Nevertheless, the state and the commercial bourgeoisie do not dare to see this fact.

Furthermore, agriculture in Sub-Saharan Africa presents many common features and faces similar difficulties. The analysis of the Zairean agriculture constitutes, then, a case study.

074
(1)10[1]:39-48, 1989
(2)La Connaissance des Ophidiens dans le Bulega (Kivu, est du Zaïre).
(3)Snakes; Lega; Social significance; Utilization; Empirical nomenclature.
(4)Chifundera, Kusamba; Malasi, Ngandu M.
(5)Département de Biologie, Laboratoire d'Herpétologie, Centre de Recherche en Sciences Naturelles-Lwiro, D.S. Bukavu, Zaïre.
Mailing Address: Aux bons soins du CEMUBAC, B.P. 67, Cyangugu, Rwanda.
(6)Département de Documentation, Section de Bibliotheque, Centre de Recherche en Sciences Naturelles-Lwiro, D.S. Bukavu, Zaïre.
Mailing Address: Aux bons soins du CEMUBAC, B.P. 67, Cyangugu, Rwanda.
(11)The Lega in the Kivu Region, Eastern Zaire, have rich knowledge of the snake fauna. The snakes have social significance in their legends, folk tales and proverbs, in which they incarnate a naughty and vagrant man, and are responsible for certain problems in the village. The Lega distinguish and classify the snakes empirically according to their body color, size, temperament and biotope in which they live. Larger snakes are eaten and the skin is sold. Snake bite is treated by some plant medicine, for which phytochemical analysis is being carried out.

075
(1)10[2]:49-67, 1989
(2)Genito-Genital Contacts in the Pygmy Chimpanzee (*Pan paniscus*).
(3)Genito-genital contacts; Copulation; Interaction pattern; Pygmy chimpanzee; *Pan paniscus*.
(4)Kitamura, Koji

(5)Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.

(11)This report deals with the pygmy chimpanzee's interactions involving mutual contacts of the ano-genital regions between two individuals, referred to as genito-genital (GG) contacts. Pygmy chimpanzees have unique forms of GG contacts: ventro- ventral copulation, GG rubbing between females, rump-rump contact between males. Moreover, various kinds of GG contacts occur in various combinations of participants, including all age-sex classes. What kinds of GG contact interactions occur in what sorts of dyads is presented. Most of the contacts have a typical pattern for each age-sex class combination. However, the role distribution in these interactions occurring in arbitrary dyads of each combination cannot be explained on the level of behavior patterns exhibited by each participant according to its biological attributes. The regularities seen in how GG contacts occur appear on the level of interaction patterns determined by whether the interactions are intra-set or inter-set. Possibility of a "syntax" analysis of interactions in a certain social system is discussed.

076

(1)10[2]:69-82, 1989

(2)Collaboration and the British Conquest of Bida in 1897: The Role and Achievement of the Indigenous Interest Groups.

(3)Collaborators; Resistance; Imperialism; Interest groups; Bida; Fulani.

(4)Idrees, Aliyu A.

(5)Department of History, University of Ilorin, Ilorin, Kwara State, Nigeria.

(11)The British conquest of parts of Africa in the nineteenth century has attracted a lot of studies. Yet, all scholars involved hold different views especially as to the role of the indigenous African groups in it. There are those who opined that the Africans who resisted the British were patriotic in spite of the futility of their actions, and the Africans who supported the British are portrayed as collaborators or saboteurs that facilitated imperialism. Other scholars are however of the opinion that those who took sides with the British were not necessarily collaborators or unpatriotic elements but that they merely reacted to the circumstances of the time.

Therefore, it is the contention of this paper that the ideas of collaboration or resistance in African history are less relevant because the two groups were concerned mainly with the protection of their socio-political and economic interests. The 1897 British conquest of Nupeland, which is situated in the central part of the present day Nigeria, provides a good example of the argument above. While the members of the Fulani ruling class of Bida dynasty organized a strong force to resist the British in order to maintain their own political and economic interest, significant sections of their subjects took sides with the British for similar reasons. The northeast Yoruba, the Kyadya and the Yissazhi gave their moral and material support to the British with the hope of bringing Bida domination to an end. It never mattered to them whether the British were imperialists or not. Their target was to get rid of the Fulani ruling dynasty.

Despite the stiff resistance by Bida army led by the members of the Fulani ruling class, it was overwhelmed not by the superior weaponry of the British but by the massive support given to the British by the interest groups who were expected to be on the sides of Bida. At the end of the war, these groups were handsomely rewarded even though short-lived.

077
(1)10[2]:83-92, 1989
(2)A Study of Twentieth Century Weaving in Ilorin, Nigeria.
(3)Ilorin; Traditional crafts; Weaving; Cloth; Loom; Technology; Modernization.
(4)Olaoye, R. A.
(5)Department of History, University of Ilorin, Ilorin, Kwara State, Nigeria.
(11)This paper is concerned with the history of indigenous technology in Nigeria. In this regard, I examine the features of traditional weaving in Ilorin, Nigeria, in the twentieth century. In the course of discussion, I reflect on the value of traditional crafts in general and cloth-making in particular. I then proceed to study the general structure of Ilorin weaving with particular attention to organization, production and the looms utilized in weaving. It is inferred from this study that the traditional techniques of weaving need to be modernized.

078
(1)10[3]:93-107, 1990
(2)Folk *In-Situ* Conservation of Ensete [*Ensete ventricosum* (Welw.) E.E. Cheesman]: Toward the Interpretation of Indigenous Agricultural Science of the Ari, Southwestern Ethiopia.
(3)Folk *in-situ* conservation; Plant genetic resources; Landraces; Indigenous agricultural science; Ensete; Ari; Southwestern Ethiopia.
(4)Shigeta, Masayoshi
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)By employing the concept of "indigenous agricultural science," both constructive and unconscious activities of the Omotic Ari people in southwestern Ethiopia, who cultivate as well as preserve ensete genetic resources, are exemplified and described. The Ari people are so deliberate and accurate in their efforts to keep the diversity of ensete landraces as compared to the *ex-situ* conservation of plant genetic resources performed by research stations and gene banks. By their folk belief system, not only the cultivated populations but the wild populations of ensete are also conserved in a ritual sanctuary. Moreover, there are certain mechanisms of bringing into cultivated populations new genotypes originated from natural crosses between cultivated populations and wild populations. The Ari's conservational efforts can be considered as one of a few ideal cases of *in-situ* conservation of crop genetic resources. Proper interpretation of their "folk *in-situ* conservation" activities for ensete can eventually lead us to full understanding of their indigenous agricultural sciences.

079
(1)10[3]:109-123, 1990
(2)Funding Small-Scale Industry for National Development.
(3)Nigeria; Small-scale industry; Funding strategies; Industrial estates; Third world development.
(4)Bell-Gam, Winston I.
(5)Research and Development Centre, University of Port Harcourt, Choba, Rivers State, Nigeria.
Mailing Address: Office of the Commissioner, Ministry of Agriculture and Natural Resources, State Secretariat Complex, Port Harcourt, Rivers State, Nigeria.
(11)In trying to identify concrete issues which should form the basis of consistent policies,

this paper presents the development of appropriate promotional programs for small-scale industry (SSI) as a viable option in national development. The potentials and limitations of SSI development policy are reviewed from literature while highlighting successes of dynamic SSI policies in some Asian countries.

Innovative funding strategies derived from the experience of industry in general are suggested for Nigeria.

080

(1)10[3]:125-136, 1990

(2)The Independence of the Judiciary in Nigeria; Problems and Prospects.

(3)Nigeria; Independence; Judiciary; Constitution; Litigation.

(4)Davies, Arthur E.

(5)Department of Government and Public Administration, University of Ilorin, Kwara State, Ilorin, Nigeria.

(11)The performance of the judiciary in Nigeria has always been subjected to scathing criticism. Many Nigerians, for example, have come to believe that the judiciary can hardly be independent because it is a mere extension of the executive organ and more importantly that some judges are just too corrupt and timid to dispense justice without fear or favor. Every court judgment which goes against them is therefore easily attributable to corrupt deeds of the judge or to interference in the judicial process by the executive organ. But few have actually taken the pains to analyze the entire problems of the judiciary, for if such analysis had been made, Nigerians would probably have come to appreciate that the problems facing the judiciary in Nigeria go beyond the stereo-typed accusations of corruption and timidity which are just human shortcomings. The problems are indeed more institutional and environmental than human. The problems the legal profession itself faces, such as the type of laws, colonial legacy, legal education and the demands of the society, all go a long way in determining the quality of the judiciary. This article discusses some of these problems and suggests a number of ways which can help to restore the confidence of Nigerians in their judiciary.

081

(1)10[3]:137-157, 1990

(2)Snakes of Zaire and Their Bites.

(3)Zaire; Snakes; Snake bites; Treatment; Antivenomous plants.

(4)Chifundera, Kusamba

(5)Département de Biologie, Laboratoire d'Herpétologie, Centre de Recherche en Sciences Naturelles-Lwiro, D.S. Bukavu, Zaïre.

Mailing Address: Aux bons soins du CEMUBAC, B.P. 67, Cyangugu, Rwanda.

(11)The ophidiological survey made in Zaire revealed the presence of 152 species of snakes included in 60 genera and in 8 families. The family Colubridae contains the largest number of genera (45) and species (97). Their geographical distribution shows that the eastern part of Kivu region contains a wide variety of species (90 species). The density of Zairean snakes has not yet been known. But in some localities like Kamanyola in the Kivu province, the density is as high as 80 individuals per square kilometer for the vipers. Other areas like Kinsuka in the vicinity of Kinshasa has as many as 10 species within the same area. Snakes are found in the forest, the savanna and in the aquatic milieu. Some species are arboreal and others live in the mountain regions. Evolutionary considerations based on the anatomical observations indicate that the equatorial forest of the Northern Zaire contains some of the most ancient and conservative forms of snakes.

Some are considered to be the most evolved and specialized form of snakes in the world. The frequencies of the snake bites at the sanitary sectors are surveyed. According to the epidemiological data on snake bites, envenomations constitute a serious problem for the public health. Mortality is 6 to 14.3% (mean 8%) of the total snake bites from 1979 to 1986. Bites are most frequent during the agricultural activities. In the savanna of Kivu, which shows the tropical climate, the bites are recorded in the rainy season. The dangerous snakes have been identified: 79 species (51%) are venomous, including vipers, elapids and opisthoglyphous colubrids which are the most dangerous. The treatment of snake bites to reduce mortality and morbidity is applied according to the principles of modern medicine (using antivenom sera) and of the traditional methods (using traditional drugs). The phytotherapy against envenomation is known in Zaire and in many other countries of Africa. Phytochemical screening of these plant drugs is being made for testing their biological activities, and the pharmacological analysis is being carried out for the confirmation of the presence of any antivenomous substance.

082

(1)10[4]:159-195, 1990

(2)Two Patterns of Chorus among the Efe, Forest Hunter-Gatherers in Northeastern Zaire: Why Do They Love to Sing?

(3)Efe; Lese; Ituri Forest; Utterance; Chorus pattern.

(4)Sawada, Masato

(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)The singing and dancing of the Efe (the Efe Pygmies) are described and analyzed. The Efe prefer songs of their own origin to those of other ethnic groups. Songs of Efe origin are divided into two phases: Phase-I and Phase-II. Phase-I is a "solo and response" pattern of chorus. Phase-II is a "dense polyphony" pattern of chorus. A transition occurs from Phase-I to Phase-II. While Phase-I is an introductory phase, the singing and dancing reaches its climax in Phase-II. The evening conversation of the Efe is similarly divided into two phases. By comparing the two phases of singing with those of the evening conversation, two modes of utterance which rule the two phases in both the singing and the evening conversation are identified, i.e. "utterance-silence" mode and "simultaneous utterance" mode. In the former mode, a soloist/speaker sings/speaks while the others keep silent. In the latter mode, all participants sing/speak simultaneously. The process of reaching a climax in the performance of the Efe is described as a transition from the "utterance-silence" mode to the "simultaneous utterance" mode.

083

(1)10[4]:197-226, 1990

(2)Agricultural Marketing Reforms and Privatization in Tanzania.

(3)Tanzania; Agricultural marketing reforms; Public vs private debate.

(4)Nindi, Benson C.

(5)Analysis Section, International Rural Development Centre, Swedish University of Agricultural Sciences, Box 7005, Uppsala, Sweden.

(11)This work attempts to examine the evolution of agricultural marketing institutions and the public vs private debate within a wider context. The paper reviews briefly Tanzanian development strategy and discusses the dynamics of state intervention in the economy in order to understand the process of political control and patronage. Critics argue that

both the degree to which economic policies have been distorted and the type of political and bureaucratic intervention that have followed to achieve these policies have made the strategy so enviable economically as to threaten its major achievement. As a consequence reforms in agricultural marketing institutions become inevitable and privatization is advocated. Sources of impetus toward privatization and the major constraints against policy reforms are considered in the context of major interest groups in Tanzania.

084
(1)11[1]:1-26, 1990
(2)Verbal Interaction of the Bongando in Central Zaire: With Special Reference to Their Addressee-Unspecified Loud Speech.
(3)Verbal interaction; Addressee-Unspecified Loud speech (AUL speech); "Castness" of speech; Bongando; Bantu farmer.
(4)Kimura, Daiji
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Daily verbal interaction of the Bongando, Bantu farmers in central Zaire was studied. Their speech forms were classified into four categories by two criteria: non- loud/loud, and addressee-unspecified/addressee-specified. Frequency of speeches in each category was measured by the time sampling method, and contents of them were analyzed.

In these categories, I paid attention to "Addressee-Unspecified Loud speech (AUL speech)." This speech was uttered frequently, but completely differed from conversation. That is, (a) no "organizing device" of usual conversation, such as turn-taking system was confirmed, and (b) it was not certain that the speech was surely heard by others, and the people usually kept "ritual indifference" to the speech.

By AUL speech, Bongando people manifested their own opinion, expressed complaints, and accomplished "feeling of co-presence." AUL speech was uttered as the speaker's own accord, regardless of the listeners' circumstances. Even so, inconsistency between the speaker and the listeners did not occur, because AUL speech was "cast" from the speaker, and was not certainly caught by others. This property ("castness") was thought to be an important method, which placed unrestrained AUL speech into the interaction system of the Bongando.

085
(1)11[1]:27-53, 1990
(2)Food Sharing among the Pygmies of Central Africa.
(3)Pygmy hunter-gatherers; Food sharing; Risk; Supplying function; Social function.
(4)Bahuchet, Serge
(5)Laboratoire de Langues et Civilisations à Tradition Orale, CNRS, Equipe de Recherche sur l'Anthropologie de l'Alimentation, 57 Rue Cuvier, Paris 75005, France.
(11)This paper describes the sharing and circulation of food among the Aka Pygmies from Central African Republic (northwest Congo Basin), compared with other groups, Baka and Gyeli from Cameroon, and Mbuti from eastern Zaire. All four groups practice sharing in three phases: (a) dividing up meat among hunters, (b) sharing of each hunter's part among his kin, and (c) distributing cooked food by every household. Sharing is made, without any centralization, by ascribing the ownership of the animal, i.e., the responsibility of its sharing, to the owner of the weapon that killed it.

Sharing among African Pygmies is a way of pooling risk, which satisfies two

complementary functions: a supplying function (corresponding to food supply uncertainty), and a social function (corresponding to group cooperation and cohesion).

However, in the Pygmy's concept, food sharing cannot be isolated from other types of exchange; it is only one part of a larger system including the circulation of goods (mainly iron tools) and the acquisition of spouses. Food sharing is a function in the wider system of exchange and cooperation that perpetuates the society.

086

(1)11[2]:55-73, 1990

(2)Economic Policy and Agrarian Crisis in Sub-Saharan Africa: The Case of Zaire from 1960 to 1990.

(3)Economic Policy; Agrarian crisis; Sub-Saharan Africa; Zaire.

(4)Kalala, Kamwanya

(5)Department of Agricultural Economics, Faculty of Agriculture, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)Food crisis in Sub-Saharan Africa has been explained in terms of demographic pressure, natural calamities, deterioration of trade, external debt burden, etc. However, the analysis of Zairean case these last years shows that the agrarian crisis has been generated and reinforced by an inadequate economic policy which emphasizes the mining sector to the prejudice of the peasant agriculture.

087

(1)11[2]:75-86, 1990

(2)Plantes Sauvages Alimentaires chez les Kumu de Masako a Kisangani (Zaïre).

(3)Wild Food plants; Kumu; Masako; Ethnobotany; Zaire.

(4)Nyakabwa, Mutabana; Bola, Mbele; Vasolene, Kasereka

(5)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.

(6)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.

(7)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.

(11)This preliminary study on the ethnobotany of the Kumu tribe of Zaire living at Masako (Kisangani) lists 55 wild species partly used as foods. Fruits or roots are eaten, and some are used as aromatics, vegetables, or drinks. Most of them grow in the thick rain forest. Their methods for preparation for use are also described.

088

(1)11[2]:87-99, 1990

(2)Plantes Médicinales Cultivées dans la Zone de Kabondo, a Kisangani (Zaïre).

(3)Cultivated; Medicinal plants; Kabondo; Kisangani; Ethnobotany; Zaire.

(4)Nyakabwa, Mutabana; Dibaluka, Mpulusu

(5)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.

(6)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.

(11)Eighty-six species of cultivated plants used in traditional medicine by the inhabitants of Kabondo (Kisangani, Zaire) are reported from surveys conducted among 55 healers and practitioners. The medicinal uses are given for each species with regards to the disease treated, part of plant used, directions for preparation and administration.

089

(1)11[2]:101-114, 1990

(2)Plantes Médicinales Utilisées chez les Banyamulenge de Fizi au Sud-Kivu (Zaïre).

(3)Medincinal plants; Utilization; Ethnobotany; Banyamulenge: Fizi: Zaire.
(4)Nyakabwa, Mutabana: Gapusi, Rwihaniza
(5)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani Zaïre.
(6)Group Scolaire de Runyinya, Butare, Rwanda.
(11)Eighty-seven species of plants used for treating humans and cattle in traditional medicine of the Banyamulenge tribe living at Fizi (South Kivu, Zaire) are reported from surveys conducted among 42 healers and practitioners. The medicinal uses are given for each species with regards to the disease treated, part of plant used, dose, directions for preparation and administration.

090
(1)11[2]:115-124, 1990
(2)Utilisations des Bois de Quelques Plantes de Bengamisa (Zaïre).
(3)Bengamisa; Woody plants; Utilization; Ethnobotany; Zaïre.
(4)Nyakabwa, Mutabana; Lombe, Lobuna
(5)Faculté des Sciences, Université de Kisangani, B.P. 592, Kisangani, Zaïre.
(6)Zone de Tshopo, Ville de Kisangani, Zaïre.
(11)The present study reports on forty-eight species of woody plants used in Bengamisa, Zaire. They are used for making furniture, drums, canoes, diverse other objects and for the construction of huts.

091
(1)11[3]:125-141, 1990
(2)Japan's Economic Relations with Africa between the Wars: A Study of Japanese Consular Reports.
(3)Shipping line; Trading company; Commercial information; Japan; Economic relation; Between the Wars.
(4)Kitagawa, Katsuhiko
(5)Kansai Junior College of Foreign Languages, 16-1 Kitakatahoko-cho, Hirakata, Osaka 573, Japan.
(11)This study consists of a provisional synthesis of research on Japan's economic relations with Africa based on an extensive examination of the pre-war Japanese consular reports regarding economic conditions in Africa. The purpose of this study is to interpret how economic relations between Japan and Africa developed. After the First World War, the number of commercial reports from Japanese consuls in various parts of Africa increased and the range of topics grew as well. Consular reports played a critically important role in extending overseas commercial knowledge to merchants and industrialists in Japan. In these reports, special attention was paid to the number and tonnage of ships passing through the Suez Canal in Egypt, as well as to the production of cotton and wool in British East Africa and the Union of South Africa, and to the sales of Japanese merchandise such as cotton textiles, knitwear, matches and brushes that had been exported to those areas. Japanese merchants and industrialists who dealt in cotton textiles found the Japanese domestic market size to be insufficient and greater attention came to be paid to such new markets as the Balkan States, the Middle East, and Africa. Given this situation, the establishment of a shipping line from Japan to Africa played a significant part in advancing Japan's trade with Africa. One of the Japanese shipping companies, Osaka Shosen Kaisha (OSK), opened the first line to South Africa in December 1916, and then, the East African line in March 1926. This enabled three large Japanese trading companies to open their branch offices in East Africa and these played

an active role in expanding the export of East African cotton and made great efforts to send Japanese cotton cloth and artificial silk into the East African market.

092
(1)11[3]:143-152, 1990
(2)Lugard and the Creation of Provincial Administration in Northern Nigeria 1900-1918.
(3)Lugard; Provincial administration; Peoples' reactions; Northern Nigeria.
(4)Apata, Z.O.
(5)Department of History, University of Ilorin, Ilorin, Kwara State, Nigeria.
(11)This paper discusses the roles played by Lord Frederick Lugard in the creation of provincial administration in Northern Nigeria. During his tenure as the High Commissioner from 1900 to 1906, the provinces he created were more or less "paper" provinces. This was so as the British colonial government had just been established in Northern Nigeria and thus exercised little or no control over most of the provinces. As the creation of the provinces was not preceded by a thorough study, and understanding of the customs and the indigenous administrative system of the people, Lugard's policies created serious problems. For instance, some ethnic groups were placed in provinces where they should not be. This provoked reactions from the people. Some colonial officials also reacted unfavorably to the creation of the provincial administration because of the huge expenditure involved.

During his period as Governor-General of Nigeria, 1912-1918, Lugard embarked on the amalgamation of some provinces in Northern Nigeria. Like his previous efforts, this failed to materialize. The failure could be blamed on the character of Lugard and the style of his administration, as well as the peculiar circumstances of the governed. In spite of these problems, the provincial structure created by Frederick Lugard formed the bedrock of the British administration in Northern Nigeria in particular, and Nigeria in general.

093
(1)11[3]:153-186, 1990
(2)Relations between Unit-Groups of Bonobos at Wamba, Zaire: Encounters and Temporary Fusions.
(3)Bonobo; *Pan paniscus*; Inter-group encounters: Social behavior; Human evolution.
(4)Idani, Genichi
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)Inter-group relations among wild bonobos (*Pan paniscus*) at Wamba, Zaire, are described. Members of two habituated unit-groups were frequently observed to intermingle, mainly at artificial feeding sites, but also in natural vegetation. During such encounters various affinitive behaviors, such as genito-genital rubbing, copulation, and peering were observed between members of different groups. Affinitive interactions between females of different unit-groups were particularly prominent, and appeared to ease the tension caused by the encounter. Males interacted with members of the other group much less frequently than females. Aggressive interactions between members of different groups were rare. Young nulliparous females were observed to transfer between unit-groups during encounters. These observations suggest that bonobos have a regional society above the unit-group level, which is unique among nonhuman primates for which comparable data are available.

094
(1)Suppl.1:1-12, 1982
(2)Adaptation to Arid Environment: A Comparative Study of Hunter-Gatherers and Pastoralists in Africa.
(4)Tanaka, Jiro
(5)Department of Cultural Anthropology, Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.
(11)The author compares two modes of living in African continent, hunting-gathering and pastoralism, and discusses man's adaptation to arid environment. First, the author deals with the San, hunter-gatherers of the Kalahari, and the Rendille, camel pastoralists of arid area in northern Kenya, describing the characteristics of their environments, livelihood, and societies. Secondly, he compares them with other hunter-gatherers, pastoralists, and agriculturalists inhabiting less arid habitat, and points out that pastoralism is suited to drier environment, agriculture to wetter environment, and that hunting-gathering is widely adaptive to both. Through further examination of the land and resource utilization, material culture, demographic features, and social organizations of the San and the Rendille, he concludes that the extensive land utilization accompanied by frequent migration—common to both peoples—should be interpreted as an adaptation to arid environment, and that their quantitativery limited material culture, elaborate demographic regulation, and flexible social structure are remarkable characteristics of the societies in arid regions.

095
(1)Suppl.1:13-41, 1982
(2)Man-Animal Interaction Complex in Goat Herding of the Pastoral Turkana.
(4)Ohta, Itaru
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The developmental mechanism of mutual interaction between man and domestic animals is examined in the goat herding of the Turkana, nomadic pastoralists living in northwestern Kenya. Behavior and inter-individual relationships among the goats are studied. Comparison with non-managed, feral and wild goats, revealed several behavioral modifications induced in the domestic goats by human management: (a) individual differences in the degree of proximity to the mother, (b) familiarity among the members of one herd, (c) formation of large groups, and (d) learned ability to move autonomously during herding. The goats are totally habituated to human management. The behavioral changes in goats are an unintended secondary result of the management practices of separating the kids from their mothers by keeping the kids at the village, and of repeated day-trip herding. The relationship between man and domestic animals in certain management systems should be viewed as the integrated outcome of their mutual interactions.

096
(1)Suppl.1:43-62, 1982
(2)Small Stock Management and the Goat Naming System of the Pastoral Gabra.
(4)Imai, Ichiro
(5)Primate Research Institute, Kyoto University, Kanrin, Inuyama, Aichi 484, Japan.
(11)The present paper describes and analyzes the pastoral Gabra herding technique for the small stock, sheep and goats, which chiefly support their subsistence diet. Although the

sheep and goats utilize different plants for their main food supply, the Gabra herd them in one flock. This paper demonstrates that the Gabra's mixed-flock herding technique is effective and well adapted to their territory's natural environment. This paper also describes the Gabra goat-naming system. The Gabra classify the goats by matrilineal groups and call each goat by its matrilineal group's name. In addition to its group name, each female goat is given an individual descriptive name. This unique naming system facilitates the exchange of information about the goats and the smooth management of milking.

097
(1)Suppl.1:63-69, 1982
(2)The Role of *Abela* in the Gabra Society: A Case Study of Gerontocratic Society of the Pastoralists.
(4)Harako, Reizo
(5)Meiji University, Izumi Campus, 1-9-1 Eifuku, Suginami-ku, Tokyo 168, Japan.
(11)The Gabra are pastoral nomads inhabiting an extreme dry land in Kenya-Ethiopia border. *Abela* is used for three kinds of meanings, a term of address to the elder, a kinship term referred to the father's sister's husband and a term referred to the mother's lover. There are several usages in several social contexts, reflecting some aspects of gerontocratic rules in the Gabra society. Especially, the roles of *abela* are analyzed in relation to the rules for marriage and sex, although the East African pastoral gerontocracy is generally discussed in the aspects of their political and religious institutions. In this report these roles are discussed with actual cases from fieldwork conducted in 1980.

098
(1)Suppl.1:71-103, 1982
(2)A Market on Boundary: The Economic Activities of the Pokot and the Marakwet in Kenya.
(4)Kurita, Kazuaki
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The market activities of three peoples—the Pastoral Pokot, the Agricultural Pokot, and the Marakwet—were observed at Chesegon Village, western Kenya. This village is located on the territorial boundary of the Pokot and the Marakwet, and sandwiched between mountains and dry plains. This location allows easy exchange of each people's particular products, because producers need only transport their goods short distances. It is not food staples but rather supplementary food, meat and handicrafts that characterize the market. There is comparatively little external trade. The market is also significant as a place to obtain cash and to exchange information.

I present the background of their market activities (the natural environment, modes of livelihood, intertribal relations, etc.), the market activities in relation to material culture and to the family budget, economic activities outside the monetary spheres, and discuss characteristics of the economic activities around Chesegon, the function of the market and shops, and the location of the market.

099
(1)Suppl.1:105-139, 1982
(2)Curing Ritual of the Tongwe Traditional Doctor: Its Process and Logic.
(4)Kakeya, Makoto

(5)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.

(11)This study attempts to analyze the logic and process of the curing ritual conducted by the traditional doctor of the Tongwe, a people of West Tanzania.

In May 1972, the author underwent formal rites to join the ranks of the *mfumo*, the traditional doctors. On the basis of this experience, this article analyses actual examples obtained during a new survey in 1980.

Sustained by the divine protection and assistance of the ancestoral ghosts and myriad spirits, the curing ritual of the *mfumo* ordinarily centers upon the tangible incarnation of the wills of the mysterious beings, the source and cause of disease, and their control. The following three pillars support this central core of the ritual: (a) the oracles of the spirits who possess the *mfumo* and spells he chants during the course of healing process, that is, the verbal aspects of the *mfumo*'s activities, (b) techniques based on symbolic behavior which render invisible mysterious beings into incarnated objects that can be manipulated, and (c) a profound ethno-scientific knowledge that sustains the selection of the animal and vegetable *dawa*, the traditional medicine.

Among the various aspects of curing ritual, particular attention has been given to the role vegetable medicine plays in traditional medicine. The Tongwe combine a plant's special characteristics; its habitat, morphology, color, smell, or toxicity, with the nature of the disease to be cured, linking the two through the names of the plants. This suggests the true importance of ethno-etymological study. These particular characteristics of Tongwe medicine reveal a close similarity with those of the Ndembu of Zambia.

100

(1)Suppl.2:1-13, 1984

(2)Outline of 1982 Survey in Samburu Hills and Nachola Area, Northern Kenya.

(4)Ishida, Hidemi

(5)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(11)In 1982, the Japan-Kenya Expedition conducted geological, palaeontological and palaeoanthropological surveys in the Samburu Hills and Nachola area, north Kenya. In this paper, geography of the areas surveyed, and brief results of the survey, including discovery of fossil hominoids, are described.

101

(1)Suppl.2:15-44, 1984

(2)Geology of the Nachola Area and the Samburu Hills, West of Baragoi, Northern Kenya.

(4)Makinouchi, Takeshi; Koyaguchi, Takehiro; Matsuda, Takaaki; Mitsushio, Hiromi; Ishida, Shiro

(5)Faculty of Science and Technology, Meijo University, 1-501 Shiogamaguchi, Tenpaku-ku, Nagoya 468, Aichi, Japan.

(6)Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.

(7)Department of Geology, Himeji Institute of Technology, 2167 Shosha, Himeji, Hyogo 671-22, Japan.

(8)Faculty of Science, Kochi University, 200B Monobe, Nankoku, Kochi 783, Japan.

(9)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)The Nachola area, about 15 km west of Baragoi, is underlain by Precambrian Basement Complex, above which come the Nachola Formation of Miocene age, undifferentiated,

probably Pleistocene basalts and Alluvium, in ascending order. The Nachola Formation consists of basaltic lavas and clastic sediments. *Kenyapithecus* occurs in the Nachola Formation.

The Samburu Hills, about 30 km west of Baragoi, are underlain by the Aka Aiteputh, Namurungule, Kongia, Nagubarat, and Tirr Tirr Formations, grey silts and fluviatile sediments, in ascending order. The Aka Aiteputh, Kongia, Nagubarat and Tirr Tirr Formations are mainly composed of accumulations of basaltic and trachytic lavas. The Namurungule Formation is of late Miocene age and consists of tuffaceous alternations of sand and mud with intercalations of mud-flow deposits. The Samburu hominoid, a late Miocene hominoid fossil, occurs in the basal part of the Namurungule Formation.

The lower part of the Nachola Formation is correlated with the lower part of the Aka Aiteputh Formation.

Many faults, trending nearly N-S, cut the volcanics and sediments in the Samburu Hills and Nachola area. These faults form synthetic (western margin of the Samburu Hills) and antithetic fault systems accompanying the tectonic line along the eastern border of the Suguta valley.

102

(1)Suppl.2:45-56, 1984

(2)Fossiliferous Localities of the Nachola-Samburu Hills Area, Northern Kenya.

(4)Pickford, Martin; Ishida, Hidemi; Nakano, Yoshihiko; Nakaya, Hideo

(5)National Museums of Kenya, P.O.Box 40658, Nairobi, Kenya.

(6)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(7)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(8)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)In the four geographic/stratigraphic areas of the Samburu Hills and Nachola, west of Baragoi, Kenya, a significant number of fossiliferous localities was found. Nachola area is dated to the middle Miocene, the Namurungule Formation in Samburu Hill to the upper Miocene, Kongia area to the Mio-Pliocene and Holocene to the area near Suguta Valley and in the drainage systems of the Samburu Hills to the Holocene. The site BG X in Nachola yielded a number of fossils provisionally assigned to *Kenyapithecus*. An important large hominoid specimen occurred in site SH 22 of the Namurungule Formation. Undoubtedly a great many additional sites await discovery.

103

(1)Suppl.2:57-66, 1984

(2)Fission-Track, K-Ar Age Determinations and Palaeomagnetic Measurements of Miocene Volcanic Rocks in the Western Area of Baragoi, Northern Kenya: Ages of Hominoids.

(4)Matsuda, Takaaki; Torii, Masayuki; Koyaguchi, Takehiro; Makinouchi, Takeshi; Mitsushio, Hiromi; Ishida, Shiro

(5)Department of Geology, Himeji Institute of Technology, 2167 Shosha, Himeji 671-22, Hyogo, Japan.

(6)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(7)Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.

(8)Faculty of Science and Technology, Meijo University, 1-501 Shiogamaguchi, Tenpaku-ku, Nagoya, Aichi 468, Japan.

(9)Faculty of Science, Kochi University, 200B Monobe, Nankoku, Kochi 783, Japan.

(10)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)Miocene rocks in the west of Baragoi, northern Kenya, consist of the Nachola, Aka Aiteputh, Namurungule and Kongia Formations in ascending order. Two kinds of hominoid, *Kenyapithecus* and a large hominoid (Samburu hominoid), were found from the Nachola and Namurungule Formations, respectively, in summer 1982. Two fission-track and six K-Ar ages were determined on the volcanic rocks to clarify the ages of the hominoid fossils. Paleomagnetic reconnaissance was also conducted for the sake of magnetostratigraphic correlation. The ages of the Nachola, Aka Aiteputh, Namurungule and Kongia Formations were around 11, 13, 7 and 6.4 Ma, respectively. The ages of *Kenyapithecus* and Samburu hominoid are considered to be the Middle Miocene and Late Miocene, respectively.

104

(1)Suppl.2:67-72, 1984

(2)The Biostratigraphic Analyses of the Faunas of the Nachola Area and Samburu Hills, Northern Kenya.

(4)Pickford, Martin; Nakaya, Hideo; Ishida, Hidemi; Nakano, Yoshihiko

(5)National Museums of Kenya, P.O.Box 40658, Nairobi, Kenya.

(6)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(7)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(8)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(11)To examine and refine the preliminary K-Ar dating results, the faunas of Nachola and Samburu Hills are analyzed biostratigraphically. It is confirmed that the fauna of Nachola is in the pre-Hipparion stage (earlier than 10 ± 0.5 m.y.). The fauna from the Namurungule Formation of Samburu Hills is the post-Hipparion stage (later than 10 ± 0.5), not as advanced as that of Lukeino (6.5 m.y.) and most like those from Ngeringerowa and Nakali. Therefore, it is supposed that the age of the Namurungule fauna is 9 ± 1 m.y.

105

(1)Suppl.2:73-85, 1984

(2)Fossil Anthropoids from Nachola and Samburu Hills, Samburu District, Kenya.

(4)Ishida, Hidemi; Pickford, Martin; Nakaya, Hideo; Nakano, Yoshihiko

(5)Faculty of Human Science, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(6)National Museums of Kenya, P.O.Box 40658, Nairobi, Kenya.

(7)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(8)Faculty of Human Sciences, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.

(11)During the 1982 expedition to Samburu Hills and Nachola, a number of hominoid fossils was found from two Miocene deposits. A small hominoid and a large late Miocene hominoid are contained in the fossils. The former most closely resembles *Kenyapithecus africanus*, and the latter may be ancestral to the extant African apes and hominoids, to gorilla alone, or not to any living hominoids. The various alternatives are discussed.

106

(1)Suppl.2:87-131, 1984

(2)The Late Miocene Large Mammal Fauna from the Namurungule Formation, Samburu Hills, Northern Kenya.
(4)Nakaya, Hideo; Pickford, Martin; Nakano, Yoshihiko; Ishida, Hidemi
(5)Faculty of Sciences, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(6)National Museums of Kenya, P.O.Box 40658, Nairobi, Kenya.
(7)Faculty of Human Sciences, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.
(8)Faculty of Human Sciences, Osaka University, 1-2 Yamadaoka, Suita, Osaka 565, Japan.
(11)By the Japan-Kenya Expedition, more than 1,145 late Miocene vertebrate fossils were collected from the Namurungule Formation in Samburu Hills, Northern Kenya in 1982. These fossils are assigned to at least 29 taxa of which 21 are mammals, including Hominoid, *Tetralophodon*, two kinds of *Hipparion*, *Brachypotherium*, *Kenyapotamus*, and *Pachytragus*. Quantitatively, the taxa of *Hipparion* are the most predominant. But gomphothere, bovid, rhinocerotid and giraffid fossils are approximately as common as each other at Namurungule. Suids, hippopotamids and carnivores seem to be uniformly rare as fossils at Samburu.

In this paper, 19 taxa of mammals are described and discussed briefly. The Namurungule mammalian fauna is closer in age to Ngorora (c. 11 m.y.) than to Mpesida (7 m.y.) from Kenya, and this fauna is similar to the faunas of Samos and Pikermi (Vallesian). It seems that the abundance of *Hipparion*, giraffids, rhinocerotids and bovids suggests a woodland to savannah environment at or near Namurungule during the upper Miocene. We find very little evidence to suggest that there was forest in the vicinity at the time of deposition.

107
(1)Suppl.2:133-139, 1984
(2)Thryonomyid Rodent from the Late Miocene Namurungule Formation, Samburu Hills, Northern Kenya.
(4)Kawamura, Yoshinari; Nakaya, Hideo
(5)Department of Earth Sciences, Aichi University of Education, 1 Hirosawa, Igatani-cho, Kariya, Aichi 448, Japan.
(6)Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Thryonomyid rodent collected from Late Miocene Namurungule Formation is described. The specimen is represented by a fragmental mandible with dP_4 or P_4, M_1, M_2 and M_3. The tooth pattern with three transverse crest is fundamentally identical in each molar. Neither posterior arm of protoconid nor mesolophid is present in any molars. Absence of anteroconid is another important character of the present molars compared with the known species of *Paraphiomys* and *Paraulacodus*. This specimen is possibly assigned to *Paraphiomys* by the resemblance of tooth pattern, size and hypsodonty, but the specific determination is reserved in this paper. Additional materials are required to decide its definite taxonomic position. The occurrence of the present specimen suggests that *Paraphiomys* had survived up to Late Miocene in East Africa.

108
(1)Suppl.2:141-145, 1984
(2)Fossil Mollusca from the Samburu Hills, Northern Kenya.
(4)Pickford, Martin
(5)National Museums of Kenya, P.O.Box 40658, Nairobi, Kenya.

(11)Fossil molluscs are important indicators of past environmental conditions. Twelve taxa of mollusca belonging to the period from Miocene to Holocene were collected mainly at the Samburu Hills in the north-central Kenya. The terrestrial snail fauna of the Kongia Formation is comparable with that from modern woodland to forest.

109
(1)Suppl.2:147-179, 1984
(2)Volcanic Rocks in the Samburu Hills, Northern Kenya.
(4)Koyaguchi, Takehiro
(5)Faculty of Science, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan.
(11)Volcanic rocks of the Samburu Hills are composed mainly of basaltic lava flows (ankaramite, olivine basalt and hawaiite) intercalated with differentiated rock lava flows and welded tuffs (trachyte and alkali rhyolite).

Basaltic rocks of various ages, from Miocene to Recent, were collected from an area of 10 × 10 km^2 (Suguta Area) and their petrography and petrochemistry are described. A decrease in degree of silica-undersaturation with time from alkali basalts to transitional basalts can be recognized. Successive decrease in depth of segregation of primary magmas can explain the temporal variation in chemical composition.

110
(1)Suppl.3:1-43, 1984
(2)Spatial Proximity and Bodily Contact among the Central Kalahari San.
(4)Sugawara, Kazuyoshi
(5)Faculty of Letters, Hokkaido University, N.10, W.7, Kita-ku, Sapporo, Hokkaido 060, Japan.
(11)Interpersonal spacing and bodily contact in public situations, were observed within the camps of the G/wi San. In an isolated camp composed of one family, the mother was in close proximity with all other members. In the mixed camps, the San were in far more frequent proximity with the same sex than with the opposite sex. The mode of distance between persons of the same sex was 0.1-1.3 m, while it was far longer between males and females other than ones' spouse. Of the body parts, the foot was most frequently involved in unintentional contact-states. Grooming behavior was usually performed by females toward juveniles or other females, while males never groomed females. The primary function of grooming toward juveniles was maternal care or reassurance, while between females, it functioned as a sociable transaction; particularly as a "service" by the younger toward the elder. Males were in proximity with each other irrespective of kinship, while proximity and contact preferentially occurred between females, or between males and females of consanguineous kin. Proximity and physical contact were avoided between siblings or siblings-in-law of the opposite sex. Physical contact was strongly avoided between in-laws belonging to adjacent generations. However, proximity and contact generally occurred irrespectively of the relationship between generations.

111
(1)Suppl.3:45-57, 1984
(2)The Rendille Subsistence Groups Based on Age-System.
(4)Sato, Shun
(5)School of Arts, Rikkyo University, 3-34-1 Nishi-Ikebukuro, Toshima-ku, Tokyo 171, Japan.

(11)The Rendille, Eastern Cushitic camel pastoralists, live in northern Kenya of East Africa. In this article, firstly, the age-system, the developmental cycle of the family, and the organization of subsistence group are analyzed, and it is concluded that the age-system and the patrilineal descent group with higher political, economic, and residential corporateness play an important role in maintaining the pastoral subsistence of the Rendille. Secondly, the Rendille age-system is compared with that of their neighboring pastoral peoples in terms of structure and function, and it is discussed that some modifications have been made in the three points: the period of enrollment into age-set, acceptance of climbing up to a higher age-set, and *sapadi* institution, on the age-system to meet the Rendille subsistence.

112

(1)Suppl.3:59-69, 1984

(2)On the Stability of the Goat Herd in the Pastoral Samburu.

(4)Shikano, Kazuhiro

(5)Primate Research Institute, Kyoto University, Kanrin, Inuyama, Aichi 484, Japan.

(11)The domestic goat herds maintained by the Samburu, nomadic pastoralists living in northern Kenya, are observed from a socio-ecological point of view. This study attempts to examine the characteristics of the domestic goat herd and to discuss its origin.

Firstly, the interaction between man and goats in day-trip herding is described, and it is conjectured that there is some kind of cohesiveness between individuals within the herd. This is confirmed by the observations of *group oriented behavior*; stray goats autonomously going back to the herd without human management. These observations show that primarily goats gather in herds and herders assist goats in gathering together.

Secondly, two examples of inter-herd relations show that goats distinguish their own herd from another and have a tendency to keep in contact with their own herd. The herd is thus discernible during inter-herd encounters. Therefore it is concluded that the domestic goat herd is a sociologically stable unit, a discernible congregation with constant membership.

The feral goats of Chichijima, however, does not form a stable group, and it is highly probable that the wild goat does not from one either. All these factors suggest and support the hypothesis that, the stable domestic goat herd was formed with the influence of man during the process of domestication.

113

(1)Suppl.3:71-93, 1984

(2)Symptoms are Classified into Diagnostic Categories; Turkana's View of Livestock Diseases.

(4)Ohta, Itaru

(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.

(11)Thirty-seven livestock disease categories of the Turkana are examined. Special attention was directed toward their etymology, curative means, and etiology. The Turkana have not developed therapeutic measures. They lack pathogenic explanations and the etiology is of little significance in their dealing with livestock diseases. It is only the classification of diseases which attains high development. All livestock disease names have their etymology in the conspicuous symptoms and/or parts of body where the given disease occurs. In their system, what is classified is not the disease as the causes of disorder in health, but conspicuous uncommonness visible on the animals' body.

Because the disease names have their motive in the substances of disease (symptoms). referring itself to the morbid condition of animals, functions as a diagnostic process.

114
(1)Suppl.4:1-24, 1985
(2)*Citemene*, Finger Millet and Bemba Culture: A Socio-Ecological Study of Slash-and-Burn Cultivation in Northeastern Zambia.
(4)Kakeya, Makoto; Sugiyama, Yuko
(5)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.
(6)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.
(11)The *citemene* system, a unique slash-and-burn horticulture to cultivate finger millet and cassava as the main crops, developed by the Bemba living in the miombo woodland in northeastern Zambia is analyzed from a socio-ecological viewpoint, based primarily on the data obtained from a three and half month field study. This paper concentrates on the activities and their results involved in *citemene* cultivation in a small village.

After brief description of the annual work, some ecological features of the *citemene* field and its surrounding woodland, and the *citemene* system as a subsistence strategy are analyzed.

Each household uses a subsistence strategy to adjust the acreage of the *citemene* fields and mound fields over the course of several years, according to the characteristics of its composition and social conditions. Traditions such as bride-service and polygamy have a strong influence on this strategy. While cassava is very important as a subsidiary staple crop, people give high value to finger millet not only as a staple crop but also as a material used in the manufacture of local beer which is indispensable for rituals, asking for joint work and communal drinking. Heavy attachment to finger millet is deep-rooted in Bemba culture. It helps to preserve the *citemene* system and conserve the traditional communal way of life at the village level.

115
(1)Suppl.4:25-48, 1985
(2)A Comparison of Fishing Strategies in the Bangweulu Swamps.
(4)Ichikawa, Mitsuo
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The fishing strategies in the Bangweulu Swamps, Northern Zambia, are described and analyzed based on the data obtained from a three month field study in 1983. At the Muilika fishing camp, situated in the center the Swamps, six fishing methods were employed by a total of 19 fishing units consisting of 27 fishermen. A comparison was made of the fishing effort allocated to the six fishing methods by these 19 units. In spite of a difference found in the allocation pattern of fishing effort, no significant difference in fishing efficiency was found among the fishing units. For *ukusakila* (fish-driving method), comparisons of efficiencies were made between the two variations of *ukusakila* method, among various sizes of co-fishing group, and among fishing units, none of which showed a significant difference. It is suggested that overall fishing efficiencies are leveled out in the long run by the fishermen who disperse their effort to different strategies and cooperate in using a small fishing ground so as not to reduce efficiencies. In group fishing, a social factor based on kinship ties is also important, although it may

not be directly relevant to the optimization of fishing efficiency.

116
(1)Suppl.4:49-88, 1985
(2)Fishing Life in the Bangweulu Swamps: A Socio-Ecological Study of the Swamp Fishermen in Zambia.
(4)Imai, Ichiro
(5)Department of Cultural Anthropology, Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.
(11)The swamp fishermen enter into the Bangweulu swamps from their main village out of the swamps in the dry season when the water level decreases. They aim at selling their catch to the markets in Copperbelt cities. In this paper, fishing method used by them are described, and the catch by each method are analyzed. The swamp fishermen carry their fishing not only in the daytime, but also engage in night fishing, by which they can get nocturnal fishes effectively. They form the production units called *nsanga* mainly through their affinity for fishing and selling their catch. The fishing methods selected by them differ from *nsanga* to *nsanga* in a fishing camp, accordingly, the fishing period, time and caught species also vary. Such utilization of the swamps can be regarded as a segregation among the swamp fishermen.

117
(1)Suppl.4:89-101, 1985
(2)A Comparative Study on the Barter Markets of the Upper Zaire River.
(4)Ankei, Yuji
(5)Faculty of Liberal Arts, Yamaguchi University, 1677-1 Yoshida, Yamaguchi 753, Japan.
(11)An extensive survey of economic anthropology was made along the upper Zaire River. The author found forty-two periodic markets, thirty of which practiced direct barter of fish and farm produce. These barter markets had varied methods of barter and management, and the author compared the results with those of an intensive study on the Songola carried out in 1979 and 1980. Although many of the barter markets were in the process of transformation, a few of them have institutionalized a defense mechanism against cash use, and two of them revived in 1983. The results verified some of the hypotheses obtained through the study of the Songola economy: barter markets in the region are traditional and they have survived the period of colonization. Under today's severe inflation, barter is sometimes more efficient than the use of cash.

118
(1)Suppl.4:103-120, 1985
(2)Variation and Composition Principles of the Residence Group (Band) of the Mbuti Pygmies: Beyond a Typical/Atypical Dichotomy.
(4)Terashima, Hideaki
(5)Department of Social Science, Faculty of Education, Fukui University, 3-9-1 Bunkyo, Fukui 910, Japan.
(11)(a) Two models concerning the residence group (or band) of the Mbuti Pygmies, a territorial model and a patrilocal model, which have been presented so far to explain the general patterns of the Mbuti socio-residential arrangements, are criticized, since both of them take little account of the complicated backgrounds of Mbuti subsistence, and thus have too narrow a view of the variation of the Mbuti's residence group. (b) The variation of the residence group is analyzed referring to its socio-economic background,

and it is concluded that the small- or large-sized groups that have been regarded atypical so far become worth consideration when we take a wider view of the Mbuti's subsistence, and to fail to do so would be to greatly oversimplify our observations of their life-style. (c) The composition structure of the residence group which intrinsically contains flexibility is analyzed. Three social relations, i.e. *ácu*, *bódé*, and *ádi* (patrilateral kinship, affinal relation, and matrilateral kinship, respectively), connect the members of the residence group with one another and thus make up the residence group which is characterized by cooperation and generalized reciprocity among the members. Although the *ácu* is most dominant relationship, other two categories play no little part, entitling the Mbuti to stay with their affines or maternal kindred freely. This gives definite flexibility to the composition of the Mbuti's residence group. (d) The seeming applicability of the patrilocal band model is discussed. It is suggested that the symbiotic relationship between the Mbuti and the neighboring farmers is one of the effective causes of the tendency of patrilineal and patrilocal grouping of the Mbuti.

119

(1)Suppl.6:1-13, 1987

(2)Agricultural Change and Its Mechanism in the Bemba Villages of Northeastern Zambia.

(4)Kakeya, Makoto; Sugiyama, Yuko

(5)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.

(6)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.

(11)The agricultural movement in the Bemba villages, which are located in the southwestern part of the Mpika District of Zambia, is examined. Villagers have begun to cultivate the permanent fields (called *faamu* in Bemba) of hybrid maize for a cash crop, using chemical fertilizer, while at the same time retaining their traditional way of cultivation, the *citememe* system. *Faamu* cultivation began to boom after 1982. To understand this phenomenon, the process of opening the *faamu* field was described, and the statistical trend of maize production since 1980 was analyzed. Finally the mechanisms involved in the acceptance of increased *faamu* cultivation at the village level were revealed, focusing on the "leveling mechanism", which sometimes both deters and promote changes.

120

(1)Suppl.6:15-32, 1987

(2)Maintaning a Life of Subsistence in the Bemba Village of Northeastern Zambia.

(4)Sugiyama, Yuko

(5)Institute of History and Anthropology, University of Tsukuba, Sakura-mura, Niihari-gun, Ibaragi 305, Japan.

(11)The Bemba people, who are living in the woodland area of northeastern Zambia, have developed a unique slash-and-burn cultivation system, called *citemene* system. It is now censured as the cause of deforestation and the Bemba people are faced with agricultural modernization. There are some villages where people have been maintaining a life of subsistence based on *citemene*, while other villages have introduced modern agriculture. This paper aims to provide a clear picture of the "traditional" life of subsistence and its structure in a Bemba village. Their subsistence strategies and cash-getting strategies. Although cash economy has deeply penetrated, several factors work to maintain the life of subsistence. Cash-getting activities remain on a small scale basis because of the

limitation of finger millet, which is the main source of cash. Unstable marriage bonds cause to produce widows. Thus it is common that the widow's household and the household with a husband co-exist in one village. Difference in the household composition results in different output of subsistence activities, which may produce social disparity. However, "leveling mechanism" based on the social principle of sharing works to balance the differences, which assures the subsistence life of a community as a whole.

121

(1)Suppl.6:33-63, 1987

(2)Fishing Life in the Bangweulu Swamps, II: An Analysis of Catch and Seasonal Emigration of the Fishermen in Zambia.

(4)Imai, Ichiro

(5)Department of Cultural Anthropology, Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.

(11)The aim of this paper is to describe and characterize the swamp fishing in the Bangweulu Swamps, Zambia. The fish catch by the several fishing methods are analyzed after these methods are outlined. As a result of the analysis, it is indicated that each production unit chooses a fishing method to catch a particular group of fish, such as Mormyridae or Cichlidae fish.

The types of fishing activity among the fishermen are divided into three classes in terms of their fishing seasons and methods. These types of fishing differ from each other as to how far their villages are from the swamps and what time schedules of agriculture are made according to the limits of the season or the period of fishing in the swamps. By analyzing these types alloted to different ethnic groups, it is clarified how the swamp area is actually utilized by the several ethnic groups from different areas.

Most of the fishermen in the Bangweulu Swamps are the part-time fishermen who are also engaged in cultivation to a considerable extent. It is discussed why these essential agriculturalists carry on fishing for themselves without making symbiotic relationships with other fishing specialists. They can get a good cash income by selling the catch, and this urges them on with fishing. The fish meat is also appealing to them, for they do not have many domestic animals, nor can so many animals be hunted around their home villages. Thus, it is concluded that both of the subsistence activities, cultivation and fishing, are essential to the life of the swamp fishermen in the Bangweulu Swamps.

122

(1)Suppl.6:65-83, 1987

(2)Why Efe Girls Marry Farmers?: Socio-Ecological Backgrounds of Inter-Ethnic Marriage in the Ituri Forest of Central Africa.

(4)Terashima, Hideaki

(5)Department of Social Science, Faculty of Education, Fukui University, 3-9-1 Bunkyo, Fukui 910, Japan.

(11)(a) The degree and the trend of inter-ethnic marriage between the Balese farmers and the Efe pygmy hunter-gatherers of the Ituri forest of central Africa are described and analyzed. At least in some parts of the forest, a very high rate of one-way type intermarriage has been taking place for the past few generations. (b) It is pointed out that there is absorption of the Efe women into the village as a background to the intermarriage. The absorption, by which an Efe woman changes her status to one suitable for a villager's wife, is ascribed to the *efe-maia muto-maia* relationship which

forms the core of the symbiotic relationship between the Balese and the Efe. (c) The dependence of the Pygmies on the farm food produced by the farmers is discussed in the light of recent ecological studies. The economic importance of the farm food and the symbiotic system through which the pygmies obtain their everyday staple diet also described. (d) Thus the *efe-maia muto-maia* relationship plays a dual role. One is to enable the Efe women to be absorbed into the village and available for the Balese men, and the other to sustain the Efe's subsistence. (e) On the level of individual economic exchanges, the farm food and the Efe women are not related directly. However, from the viewpoint of the total socio-ecological system, the farm food produced by the Balese and the Efe women are exchanged. (f) The imbalance of economic exchanges between them which has been often pointed out so far, would become more understandable only by broadening our scope of the symbiotic model to such an extent as to include the Efe women's labor and reproductive value.

123
(1)Suppl.6:85-96, 1987
(2)The Evening Conversation of the Efe Pygmy Men and Its Social Implication: A Men's Display to Women.
(4)Sawada, Masato
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The evening conversations of the Efe Pygmy are described and analyzed. The conversation process is divided into calm phases (c-phases) and excited phases (e-phases). While in c-phase, calm and ordinary speech is heard, in e-phase, loud and rapid speech is heard. In c-phase, adult women sometimes participate in the conversation. However, in e-phase, they do not and only adult men speak. In e-phase, adult men mutually support one another's assertions, and rarely contradict each other. It is shown that in e-phase, the pragmatic variables e.g., loudness, rapidity of speech, function to make women remain silent and to draw the attention of women to the men's conversation. It is suggested that the e-phase is a collective display towards women by the men in which they demonstrate their mutual supporting relationship.

124
(1)Suppl.6:97-121, 1987
(2)Food Restrictions of the Mbuti Pygmies, Eastern Zaire.
(4)Ichikawa, Mitsuo
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)While the Mbuti Pygmies utilize more than 300 animal and plant species as their food, only 60% are eaten freely by anybody without restriction. Of the remaining 40% avoided by the Mbuti for various reasons, more than 85 % are the animals (including a few plants) which, called *kweri* in general, are conditionally restricted. These animals are thought to be dangerous, because the Mbuti think they may cause diseases or other disorders to the person who eats them, to his or her small child, or even to the unborn baby. All the Mbuti are not affected by the *kweri*. Newborns, infants, and those in the initiation period are thought to be specially susceptible. The general tendency is that the restriction for these animals is relaxed as one grows old. The diseases caused by *kweri*, their prevention and cure, and the characteristics of these "dangerous" animals are described and analyzed. It is suggested that the food restriction provides us with a clue

to an understanding of the Mbuti's concepts of diseases and eating food.

125
(1)Suppl.7:1-52, 1987
(2)A Preliminary Report on the Ethnobotany of the Suiei Dorobo in Northern Kenya.
(3)Suiei Dorobo; Hunter-gatherers; Ethnobotany; Nomenclature; Utilization.
(4)Ichikawa, Mitsuo
(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.
(11)A total of 1,026 plant specimens and their ethnobotanical informations were collected among the Suiei Dorobo, the hunter-gatherers in the Mathew's Range, Northern Kenya. The specimens comprise 569 scientific species, for each of which a brief botanical and ethnographic description is made. Of the 569 species, the Suiei utilize 123 species as food, 231 as medicine, 50 for various rituals, and 176 as materials for construction and making various instruments. Other 121 are used in indirect ways as fodder or as nectar source. Their vernacular names are compared with the Latin (scientific) names, and the characteristics of their utilization pattern is discussed.

126
(1)Suppl.8:1-78, 1988
(2)Wild Plant Utilization of the Balese and the Efe of the Ituri Forest, the Republic of Zaire.
(3)Pygmy hunter-gatherers; Sifting cultivators; Tropical rain forest; Wild plant utilization; Ethnobotany; Zaire.
(4)Terashima, Hideaki; Ichikawa, Mitsuo; Sawada, Masato
(5)Department of Social Science, Faculty of Education, Fukui University, 3-9-1 Bunkyo, Fukui 910, Japan.
(6)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Kyoto 606, Japan.
(7)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)Quite many plants are used by the Balese cultivators and the Efe hunter-gatherers who live in the midst of the tropical rain forest of Zaire. In total, 533 pieces of use information on 281 plants were gathered and presented here with scientific names, botanical information, usage categories, the etymology of vernacular names, and comparative notes with the plant utilization observed among the Tetri net-hunters by Tanno (1981).

127
(1)Suppl.9:1-88, 1989
(2)Folk Knowledge of Fish among the Songola and the Bwari: Comparative Ethnoichthyology of the Lualaba River and Lake Tanganyika Fishermen.
(3)Ethnosciences; Folk classification; Freshwater fish; Lualaba River; Lake Tanganyika; Bembe; Bwari; Enya; Songola; Vira.
(4)Ankei, Yuji
(5)Faculty of Liberal Arts, Yamaguchi University, 1677-1 Yoshida, Yamaguchi 753, Japan.
(11)A field survey in collaboration with the Institut de Recherche Scientifique (presently Centre de Recherche en Sciences Naturelles) was carried out near Kindu and Baraka, Région du Kivu, République du Zaïre (Sept. 1979-Feb. 1980 and Sept.-Dec. 1983). The fork knowledge of fish is described in detail for the two areas. The author

identified 100 species from the Lualaba River and 97 species from Lake Tanganyika.

Songola fishermen (Enya subgroup) along the Lualaba (upper reaches of the Zaire, formerly the Congo) River have 108 vernacular names and 12 inclusive folk categories of fish, consisting of six levels of categorization. There are 18 series of "growth fishes" which have two to four different vernacular names according to their life-cycle stages. All the "growth fishes" of the Enya are large-sized fishes and their names change by growth size. The thresholds for the different names seem to be related to the mesh sizes of traditional fishing nets.

Bwari fishermen of northern Lake Tanganyika have a simpler system of folk classification than the Songola-Enya. They have 79 vernacular fish names and 4 inclusive folk categories, consisting of three levels. There are 8 "growth fishes." They were diverse in body size and a small clupeid *ndagaa*, one of the most abundant and important fishes for the Lake Tanganyika fishermen, has as many as four life-cycle stages that determine its market price.

The difference in the folk knowledge of the fish between these two peoples might be understood by the difference in the composition of the fish fauna of the two areas; in Lake Tanganyika while small-sized cichlid species (called inclusively as *.LENDA* by the Bwari) are abundant, it is the *ndagaa* that prevails in today's catch.

A comparison of the fish names among 15 peoples of Central Africa suggested that fish nomenclatures of Bantu societies have little similarity between independent water systems. I found only two stems having a universal distribution in Central Africa: *.nyik.* for electric catfish and *.sembe* for lung-fish.

Fishermen of Central Africa have an accurate and rather objective knowledge of fish on which they are dependent. As yet some of the fishes are regarded as special. Some are regarded as taboo, others used as charm medicine. Having an intermediate character between fish and other creatures (bird or tree) and having anomalous features are good reasons to regard them as special.

Where do all these differences come from? In order to consider the problems concerning the comparative ecology and epistemology of African peoples more properly, we must be equipped with a better knowledge on the environment (fauna and flora), linguistics, and ethnography.

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(1)Suppl.10:1-104, 1989

(2)A Classified Vocabulary of the Turkana in Northwestern Kenya.

(4)Ohta, Itaru

(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.

(11)The Turkana people, Eastern-Nilotic speakers (Gregersen, 1977), live in a semi-desert in northwestern Kenya. They call themselves "Ngiturukana" and their language "Ngaturukana." Most of them live in the Turkana District, Rift Valley Province. The population of the District is about 140,000 (Kenya Population Census, 1979).

This research on their vocabulary was carried out during my anthropological survey between July 1982 and January 1989, around Kakuma, a small town 120 km northwest of Lodwar, the center of the District. Their vocabulary was collected on the basis of Yukawa's questionnaire (Yukawa, 1979). The main informants were Messrs. Albert Ardung, Robert Nagiro, and Lokipaka Rapo. The former two speak English and Swahili, the latter Swahili only besides Turkana. Some special terms of livestock management (Ohta, 1984; 1987) and classification of animal kingdom (Itani, 1980) have

already been published.

On the Turkana people, Gulliver (1951; 1955) made a pioneering ethnographical study. On their language, studies were made by Anderson (n.d.), Heine (1980), Best (1983), Dimmendaal (1983), and Barrett (1988). Studies on the languages of neighboring ethnic groups (Kiggen, 1953a; 1953b; Verona Fathers, 1972; Nagashima, 1983) may also be useful for those who are interested.

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(1)Suppl.11:1-75, 1990

(2)The Dietary Repertory of the Ngandu People of the Tropical Rain Forest: An Ecological and Anthropological Study of the Subsistence Activities and Food Procurement Technology of a Slash-and-Burn Agriculturist in the Zaire River Basin.

(3)Zaire basin; Food ecology; Ngandu; Tropical rain forest; Subsistence strategy; Food consumption pattern; Forest habitation.

(4)Takeda, Jun

(5)Department of Human Ecology, Faculty of Health Sciences, School of Medicine, University of the Ryukyus, 207 Uehara, Nishihara, Okinawa 903-01, Japan.

(11)Food acquisition and consumption behavior of the Ngandu, who are a Bantu people living in the Zaire basin, is described. The utilization of plants and animals as foods is examined from food diaries recorded over a long period of time by two informants.

The Ngandu are multi-subsistence strategists, utilizing widely and predominantly the resources of the forest. The Ngandu are almost self-sufficient with respect to their dietary needs. The food plants consumed by the two informants include 24 species of cultivated plants (representing 20 genera, 16 families) and 22 spp. of wild gathered plants (22 gen., 18 fam.) plus one unidentified sp. and 10 mushrooms. The animal foods consumed include 37 spp. (24 gen., 16 fam.) of mammals, 10 spp. (9 gen., 5 fam.) of birds, 29 spp. (23 gen., 18 fam.) of fish, 12 spp. (10 gen., 8 fam.) of reptiles and 21 spp. (11 gen., 8 fam.) of insects.

The cultivation of cassava as the basic staple food is maintained by less labor-intensive efforts which make it much easier for the Ngandu to engage in various other subsistence strategies such as hunting. They use elaborate hunting techniques which enable them to utilize a wide variety of animal foods. For this reason, they have not needed to develop symbiotic relationships with the hunter-gatherers which are found between the Mbuti and the neighboring agriculturists in Eastern Zaire. Their self-sufficiency, which has been established by a thorough utilization of the forest resources, has been of substantial importance both in the process of territorial expansion and in the stability of the forest habitation. Complicated food taboos which seem contradictory to a maximal utilization of and conservation of resources are observed, and serve as socially regulating factors. Although such food restrictions may be a factor contributing to the reproduction of the forest resources as is the case with the Mbuti, the existence of the agriculturalists with their diversified subsistence strategies may act as an unfavorable factor which will lead to a shortage of the forest resources.

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(1)Suppl.12:1-33, 1990

(2)A Comparative Study of the Herd Structure between the Feral Ogasawara Goats and the Domestic Samburu Goats.

(3)Samburu; Domestication; Goat; Pastoralism; Herding; Bovine behavior and ecology.

(4)Shikano, Kazuhiro

(5)Shimane Women's Junior College, 7-24-2 Hamanogi, Matsue, Shimane 690, Japan.
(11)Socio-ecological and behavioral data of the domestic goats reared by the pastoral Samburu of northern-central Kenya are analyzed in comparison with those of the feral goats of Chichijima Island, Japan, for inference on the process of domestication of bovine livestock. The pastoral and feral goats' behaviors are compared with those of wild bovine species. With regard to the origin of pastoral herds, the results suggest that the hypothesis assuming that man first caught infants and formed the livestock herds is more plausible than assuming that man habituated a natural group of animals as a whole.

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(1)Suppl.12:35-49, 1990
(2)What Does Marriage Mean to Each Gender of the Il-Chamus?: Husband-Wife Relationship of an East African Agro-Pastoral People.
(3)Il-Chamus; Northern Kenya; Agro-pastoralist; Marriage system; Social structure; Husband; Wife.
(4)Kawai, Kaori
(5)Laboratory of Human Evolution Studies, Faculty of Science, Kyoto University, Oiwake-cho, Kitashirakawa, Sakyo-ku, Kyoto 606, Japan.
(11)The husband-wife relationship of the Il-Chamus, an agro-pastoral people living in northern Kenya, is analyzed from socio-economical and behavioral viewpoints. Described are: (a) acquisition and inheritance of property, division of labor, and wives' separation from their husbands in polygynous families; and (b) the husband's control of the wife's behavior, adultery, and legitimacy of children. By marriage, Il-Chamus husbands get wives' labor, which is indispensable for daily chores. By co-residence, they try to prevent wives from committing adultery, which endangers children's legitimacy. By marriage, wives get property, i.e. livestock and farms, to subsist on. It is not always necessary for them to co-reside with their husbands.

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(1)Suppl.12:51-58, 1990
(2)Deep Involvement in Social Interactions among the Turkana.
(3)Social interactions; Communication; Social relationship; Involvement; Turkana.
(4)Kitamura, Koji
(5)Faculty of Humanities, Hirosaki University, 1 Bunkyo-cho, Hirosaki, Aomori 036, Japan.
(11)This report deals with how the Turkana people manage their involvement in situational activities. The Turkana often beg another for something. When begging, they are intensely absorbed in their emotion. The beggar's behavior seems dually characterized: the childish behavior with insufficient control over the self and the tactical one for negotiation. Also in situations other than begging, they are often deeply involved in immediate interactions. They, as participants in the interaction, persist in having their way and display the unperturbed self. They refuse anything provisional about themselves. Also within the level of assumed "reality" which attendants in the gathering sustain, they persist in refusing anything provisional. They affirmatively front whatever is presented. They never bother themselves with whether the "reality" sustained is true or false. While they are lively within the "reality" which is shared by all attendants, they are in any situations required to be deeply involved in their activities.

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(1)Suppl.12:59-87, 1990

(2)The Influence of Sedentism on Sharing among the Central Kalahari Hunter-Gatherers.

(3)Central Kalahari San; Hunter-gatherers; Sedentism; Sharing; Egalitarianism; Development.

(4)Osaki, Masakazu

(5)Center for African Area Studies, Kyoto University, 46 Shimoadachi-cho, Yoshida, Sakyo-ku, Kyoto 606, Japan.

(11)This paper deals with recent changes in the life and society of the Central Kalahari San, traditional hunter-gatherers living in the ≠Kade area of the Central Kalahari Game Reserve.

The sedentarization program of the Botswana government has had a profound influence on the subsistence of the Central Kalahari San. Gathering, which formerly supplied the San with 80% of the caloric value in their diet, has become less important, and their hunting methods have completely changed. Instead of traditional bow-and-arrow hunting, they were using horses for hunting in 1982. Equestrian hunting (hunting on horseback) is so effective that a great amount of meat is acquired in one hunting trip. They have begun to sell some of this meat to visitors to get cash. Inequality in the first distribution of meat has developed. The horse owners receive approximately half of the meat, while other participants receive only a small amount. Such inequality did not exist, when they led a nomadic life.

Equality remains unchanged in the sharing of meat which is stored by horse owners. Although the principle of equality remains influential, the flow of the meat is one-way, always from the minority of the horse owners to the majority of others. Such a one-way flow of distribution did not exist in their traditional society.

Besides equestrian hunting, dog hunting (hunting with spear or club, with the help of dogs) became popular in 1987. Until recently, hunting with dogs was a subsidiary method. In contrast to equestrian hunting, everybody can participate in hunting with dogs on equal terms. The meat which is acquired by hunting with dogs is distributed equally among the participants, then the participants share the meat with non-participants within the same camp. The sudden spread of hunting with dogs proves that their co-existence is still governed by egalitarianism. It is concluded that although sedentism has so deeply influenced their situation that a cultural change has occurred, their tradition of egalitarianism remains a fundamental part of the San society.

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(1)Suppl.13:1-174, 1990

(2)Cookbook of the Songola: An Anthropological Study on the Technology of Food Preparation among a Bantu-Speaking People of the Zaire Forest.

(3)Cooking; Folk classification; Recipes; Songola; Zaire.

(4)Ankei, Takako

(5)Faculty of Education, Yamaguchi University, 1677-1 Yoshida, Yamaguchi 753, Japan.

(11)What do African women do to prepare their daily diet in a rural environment? This article is an attempt to answer this question, based on an eight-months' field survey among the Songola, a Bantu people living in the tropical rain forest of the Republic of Zaire.

In order to shed light on their system of cooking as a whole, the author established cumulative inventories of (a) 377 materials having different Songola names, (b) 49 Songola verbs for the techniques of preparation, (c) 40 cooking tools, and (d) a total of

335 recipes of which 75 were for intermediate products having their Songola names. Materials are identified, labeled with Songola, Zairean Swahili, and Latin names, and described from the statements of the Songola and the observations by the author. The boundaries for the elements of each set of inventories are determined by "emic" approach, or depending upon the concepts of the Songola themselves. Each verb for cooking, accompanied by an operational definition, is illustrated by sample sentences and sketches of the author. Recipes, represented by a combination of the former three elements, are described by text and flow charts with which readers will easily understand the systematic relationship between them.

A single material cassava had recipes of the greatest diversity: divided into three by the Songola ("sweet" tubers, "bitter" tubers, and leaves), it gave birth to a total of 30 different recipes and 8 intermediate products for other recipes, and 35 different dishes. Thus, the result was an overwhelming variety of cooked food available among the Songola: they know as many as 2099 different dishes. Seeing that salt and a small amount of sugar are the only materials provided from outside of their territory, we can have an image of the original affluence of food and diet in African tropical rain forests.

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(1)Suppl.14:1-70, 1990

(2)Koegu Vocabulary, with a Reference to Kara.

(4)Hieda, Osamu

(5)Section of Swahili and African Studies, Department of Arabic and African Languages, Osaka University of Foreign Studies, 2734 Aomadani, Mino, Osaka 562, Japan.

(11)The Koegu people, numbering about 300 individuals, live along the western bank of the Omo River in the extreme southwestern corner of Ethiopia. They are called Muguji by the neighboring Kara, or Umucu by the Bume.

The Koegu language is a variant of the Kwegu-Muguji languages, which belong to the southeast Surmic group within the Surmic languages in the Nilo-Saharan phylum. The Koegu language is quite unique lexically and even syntactically in the Surmic languages. The uniqueness is due to language contact with the Omotic languages, in particular the Kara language. This short vocabulary supplies also the reference to the Kara as much as possible, though it is not comprehensive.

This vocabulary is organized into a classificatory system based on a simple semantic association, not on a theoretical principle. Ohta (1989) gives a good guide to it.

This vocabulary is based on the data which were collected in the field research in Ethiopia between December 1987 and February 1988, between January and March 1989, and between January and March 1990.

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(1)Suppl.15:1-61, 1991

(2)Ethnobotany of the Lega in the Tropical Rain Forest of Eastern Zaire: Part One, Zone de Mwenga.

(3)Ethnobotany; Plant utilization; Tropical rain forest; Lega; Zaire.

(4)Terashima, Hideaki; Kalala, Seya; Malasi, Ngandu M.

(5)Department of Social Science, Faculty of Education, Fukui University, 3-9-1 Bunkyo, Fukui 910, Japan.

(6)Laboratoire Botanique, Département de Biologie, Centre de Recherche en Sciences Naturelles, Lwiro, D.S. Bukavu, Région de Kivu, Zaïre.

(7)Département de Documentation, Centre de Recherche en Sciences Naturelles, Station

d'Uvira, B.P. 254, Bujumbura, Burundi.

(11)Ethnobotanical research was conducted on the traditional use of wild plants among the Lega slash-and-burn agriculturalists of eastern Zaire. Data on 287 plants were collected and matched with scientific names, vernaculars, botanical observations, uses, and name etymology. This report is the first step in a survey that will involve several research sites in Legaland in an attempt to understand man-plant interrelations in the floral environment of tropical rain forests through the ethnobotanical method.

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